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AUTHOR Frase, Mary J.
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ABSTRACT

A national study examined the extent of the high school dropout problem and identified the students most likely to drop out before completing high school. Using three separate measures, the study found that on average, 4.4% of 10th-12th graders dropped out of high school annually in the years 1985-88, down about 2% from 1978; nearly 13% of all 16- to 24-year-olds were not in school and had not completed school in 1988, down from 16% in 1968; and among a sample of 1980 high school sophomores, 17% had not graduated by 1982, but 46% of these non-graduates had completed school by 1986. The study also found that: the dropout problem is particularly pressing among Hispanics and the rate is not declining; nearly one-third of Hispanics have completed no more than six years of school; overall dropout rates, particularly for blacks, have declined in the last decade; differences in dropout rates of blacks and whites have decreased significantly; dropout rates for whites and blacks are similar when individual and family background are taken into account; and dropout rates are higher in the South and West. The report presents data in graphs and tables with narrative. (MSE)

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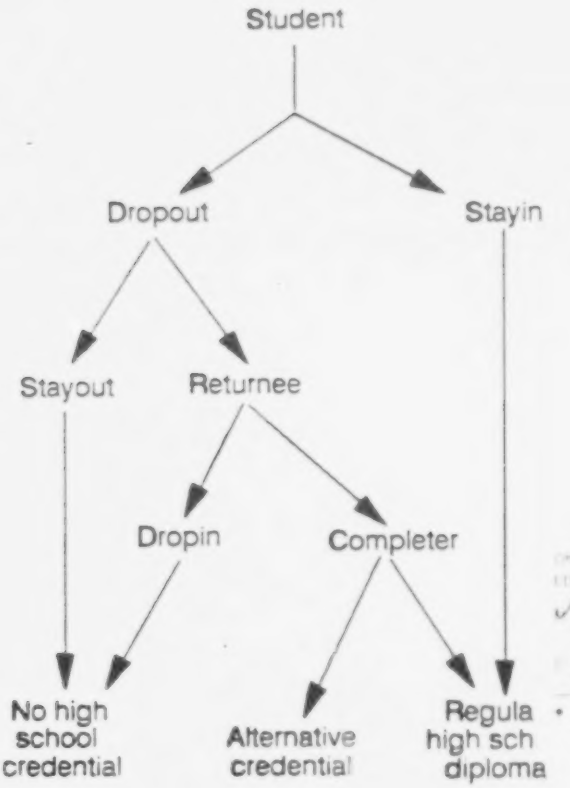
Analysis Report September 1989

DROPOUT RATES IN THE UNITED STATES: 1988



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NATIONAL CENTER FOR EDUCATION STATISTICS

Analysis Report September 1989

DROPOUT RATES IN THE UNITED STATES: 1988

Mary J. Frase
Crosscutting Education Statistics and Analysis Division

U.S. Department of Education
Office of Educational Research and Improvement NCES 89-609

U.S. Department of Education
Lauro F. Cavazos
Secretary

Office of Educational Research and Improvement
Bruno V. Manno
Acting Assistant Secretary

National Center For Education Statistics
Emerson J. Elliott
Acting Commissioner

National Center for Education Statistics

"The purpose of the Center shall be to collect, and analyze, and disseminate statistics and other data related to education in the United States and in other nations."--Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

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FOREWORD

The National Center for Education Statistics (NCES) collects and publishes information on the condition of education in the United States. The Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (P.L. 100-297) mandated specifically that NCES collect and publish data about dropping out of school. One of these mandates requires NCES annually to report dropout and retention rates for a 12-month period to the appropriate committees of Congress on the second Tuesday after Labor Day, beginning in 1989. This report was prepared pursuant to that mandate and is NCES' first annual report on dropout rates.

The report focuses on two dimensions of the dropout issue: (1) the extent of the problem and (2) the identification of those students who are most likely to drop out. The introduction provides background information and defines three different types of dropout rates -- event, status, and cohort rates. Separate chapters address the two major issues for each of the different types of dropout rates. A fourth chapter presents information about dropouts who return to complete their high school education. A final chapter summarizes the findings, highlighting similarities among the different rates. Additional tables and technical materials are presented in Appendices.

The report is based on the best and most current national data available at this time. It utilizes the Current Population Survey conducted by the Bureau of the Census to develop event and status dropout rates. Data from the High School and Beyond longitudinal survey conducted by NCES are used to develop cohort rates and high school completion rates for dropouts. NCES is currently pursuing an extensive, integrated program to expand and improve data collected about dropouts in response to the provisions of P.L. 100-297. These efforts were described in an earlier report, Activities to Plan and Implement the Reporting of School Dropout and Retention Indicators: Status Report to the United States Congress on Activities Related to Section 406 (G) of the General Education Provisions Act (GEPA) as Amended by Public Law 100-297, May 1989, and are described briefly in Appendix C of this report.

I hope the information in this report will be useful in discussions about this critical national issue.

Emerson J. Elliott
Acting Commissioner of
Education Statistics

ACKNOWLEDGEMENTS

This report was prepared under the direction of Jeanne E. Griffith, Acting Director, Crosscutting Education Statistics and Analysis Division. Many individuals made substantial contributions to the preparation of this report. Without the assistance of Paul Siegel, Chief, Education and Social Stratification Branch, Population Division, Bureau of the Census, and members of his staff, Rosalind Bruno and Robert Kominski, the sections of this report based on CPS data could not have been prepared. They provided data tapes, special tabulations, and guidance in interpreting the data.

Numerous members of the NCES staff provided assistance in preparing various parts of the report. Jeanne Griffith, Paul Planchon, Jeffrey Owings, and Lee Hoffman reviewed drafts of outlines and table shells during initial stages of the project. Teresita Chan Kopka and William Sonnenberg ran data tapes to produce tabulations from HS&B and CPS respectively. Jeffrey Owings also provided data processing support. William Hussar, Celeste Loar, and William Sonnenberg prepared the figures. Walter West, Susan Ahmed, and Charles Cowan provided statistical advice. Walter West, Lee Hoffman, and Anne Hafner reviewed the descriptions of the future data collections in Appendix C. Brenda M. Wade provided data entry support and assistance in formatting the report. Edith McArthur provided assistance with editing, proofreading, and the covers.

The report was reviewed by Lee Hoffman and Jeffrey Owings of NCES; James Catterall, UCLA; Laura Salganik, Pelavin Associates; and Robert Kominski, Bureau of the Census. Their efforts and contributions are greatly appreciated.

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EXECUTIVE SUMMARY

This document is the first annual report by the National Center for Education Statistics on dropout and retention rates. It focuses on two dimensions of the dropout issue: estimating the extent of the dropout problem and describing the characteristics of those who drop out.

Information is presented in the report pertaining to three different types of dropout rates -- event, status, and cohort. The types of dropout rates are defined and highlights from the findings are presented below.

Types of Dropout Rates

Each of the three types of dropout rates measures a different facet of dropping out.

- o Event dropout rates measure the proportion of students who drop out in a single year without completing high school.
  - Event rates are important because they reveal how many students are leaving high school each year and how each year's rates compare with previous ones.
- o Status dropout rates measure the proportion of the population who have not completed high school and are not enrolled at one point in time, regardless of when they dropped out.
  - Status dropout rates are important because they reveal the extent of the dropout problem in the population and therefore suggest the magnitude of the challenge for further training and education that will permit these individuals to participate more fully in the economy and the life of the nation.
  - Status dropout rates are much higher than event dropout rates because they represent the cumulative impact of the annual event dropout rates over a number of years.

- o Cohort rates measure what happens to a single group (or cohort) of students over a period of time.
  - By following a single group of students, cohort rates provide insights into the dynamics and timing of dropping out and returning to school.

Dropout and Retention Rates

Although the annual (event) dropout rate seems relatively low, the cumulative effect over many years results in large numbers of young people who are not in school and have not completed high school. The problem of dropouts in the society would be even greater if a substantial share of dropouts did not earn a diploma or an equivalency credential within a few years after they dropped out.

- o Between October 1985 and October 1988, an average of 4.4 percent of all students in grades 10-12 dropped out of high school. An average of 95.6 percent were retained in grades 10-12 each year during that period. (Event rate)

- o In October 1988, nearly 13 percent of all 16- to 24-year-olds, nearly 4.2 million young adults, were out of school and had not completed high school. (Status rate)

- o Among the sophomore class of 1980, 17 percent failed to graduate by June of 1982. (Cohort rate)

- o Dropping out of high school is not an irrevocable action. Many dropouts later complete high school, often within a short period after dropping out. Nearly half (46 percent) of the dropouts from the sophomore class of 1980 had completed high school by 1986, that is, within four years of the expected date of their graduation. (Cohort rate)

Trends in Dropout Rates

Despite the popular impression that dropout rates have been rising, in fact dropout rates have been declining over the past ten years (Figures A and B). Rates have declined for both blacks and whites, with sharper declines for blacks. The rates for Hispanics have not declined.

- o The event dropout rate has declined about two percent over the past ten years. It was 6.6 percent in 1978.

- The proportion of 16- to 24-year-olds out of school and not high school graduates gradually decreased between 1968 and 1986 from 16 to 12 percent. (Status rate)

- Event and status dropout rates for blacks have declined considerably, resulting in a narrowing of the differential between black and white dropout rates -- from 13 percent in 1968 to 2 percent in 1988 (for status rates) among 16- to 24-year-olds.

- There has been no consistent trend in Hispanic dropout rates (event and status) upward or downward over the past 15 years. Hispanic dropout rates have remained high throughout the period. For example, between 9 and 11 percent of Hispanic students dropped out of high school each year.

Characteristics of Dropouts and Factors Associated with Dropping Out

Individual/Family Characteristics

Dropout rates are related to a variety of individual and family demographic and socioeconomic characteristics. In general, dropout rates are higher for minority students and for those coming from disadvantaged backgrounds.

- Dropout rates are higher for blacks and Hispanics than for whites. However, the majority of dropouts are white. For example, the cohort dropout rates for whites, blacks and Hispanics were 15, 22, and 28 percent respectively. Nevertheless, whites accounted for 66 percent of all dropouts.

- About one-third of all Hispanics ages 16-24 were not enrolled in school and not high school graduates in 1988.

- Cohort dropout rates for American Indians/Alaskan Natives were quite high (35 percent), while those for Asian students were very low (8 percent) compared to whites (15 percent).

- Dropout rates for males tend to be higher than those for females, e.g., status rates of 13.5 percent and 12.2 respectively.

- Males and blacks tend to take longer than females and whites to complete high school. Higher proportions of males and blacks are still enrolled in school below the college level at ages 18 and 19.

- Dropout rates are higher for students coming from low socioeconomic backgrounds, from single-parent families, and from nonEnglish language family backgrounds.

	Cohort dropout rate
Socioeconomic status	
Highest quartile	7 percent
Lowest quartile	22 percent
Family structure	
Two parents present	12 percent
One parent present	22 percent
Home language background	
NonEnglish only	20 percent
English only	15 percent

- When blacks and whites from similar social backgrounds are compared, dropout rates for blacks are not higher, and in some cases may be lower, than those for whites.

Location

The dropout problem is particularly severe among young Hispanics in the West. It is also greater in cities than in suburbs and nonmetropolitan areas.

- Dropout rates are higher in central cities than in the suburbs and nonmetropolitan areas. The event rate for 1987 was 5.9 percent in central cities, 4.2 percent in nonmetropolitan areas, and 3.7 percent in suburbs.

- Among 16- to 24-year-olds, a majority of blacks (58 percent in 1988) live in central cities where dropout rates are high, while half of whites live in the suburbs where the rates tend to be low. Blacks and whites living in the suburbs do not differ from one another in their dropout rates, nor do those living in central cities.

- Dropout rates are lower in the Northeast than in the South and West. For example, in 1987, the proportion of 10th-12th graders who left school were:

  - Northeast 3.2 percent
  - South 5.0 percent
  - West 4.9 percent.

- Hispanics constitute a majority (58 percent) of dropouts in the West, but only one-fourth in the country as a whole.

- About 12 percent of dropouts ages 16-24 in 1988 had completed six or fewer years of schooling. However, that proportion was more than twice as high (27 percent) in the West and for Hispanics (31 percent). The proportion is high in the West because Hispanics represent such a large share of the dropouts in that region.

Behavioral factors

- Individuals who marry or have children prior to the time they would graduate from high school are more likely to drop out.

- Students with a history of problems with school authorities or the law are more likely to drop out of school.

School experiences

A student's previous success in and commitment to school are related to the likelihood of dropping out. Those who have been less successful and have missed more school are more prone to drop out.

- Those with poor grades, who have repeated a grade, or who are overage for their grade are more likely to become dropouts than other students. Cohort dropout rates were 7 percent or less for those with B averages or better and 35 percent or higher for those with less than a C average. Cohort rates were twice as high for those who had repeated a grade (31 percent) as for those who had not (14 percent).

- Prior school attendance patterns are related to the likelihood of dropping out. Students who miss many days of school for reasons other than illness are more likely to drop out than those who miss few, if any, days.

Composition of Dropouts

The characteristics of the typical dropout do not always mirror the population groups with high dropout rates. In fact, most dropouts do not come from backgrounds that place them at greater than average risk of dropping out. Two factors contribute to this pattern. First, the groups with lower dropout rates generally form a much larger share of the total population. Second, even in those population groups with high dropout rates, only a minority of students drop out.

- Most students "at-risk" of dropping out -- based on their background or prior experiences and behavior -- do not drop out. For example, almost 80 percent of students from single-parent families do not become dropouts.

- The majority of dropouts are not "at-risk" students, partly because most "at-risk" students stay in school and partly because the total number of students in many "at-risk" categories is relatively small. For example, while dropout rates are much higher for students who have less than a C average than for other students, 60 percent of dropouts have C averages or better.

- As a result of these factors, the characteristics of dropouts on a number of dimensions may be somewhat surprising. Of the dropouts from the 1980 sophomore class:

  - 66 percent were white,
  - 86 percent had an English language home background,
  - 68 percent came from two-parent families,
  - 42 percent attended suburban high schools,
  - 80 percent had neither children nor spouses, and
  - 71 percent had never repeated a grade.

Characteristics of Dropouts Who Later Complete

The same characteristics that are related to the likelihood of dropping out also tend to be associated with the likelihood of a dropout later earning a diploma or an equivalency certificate.

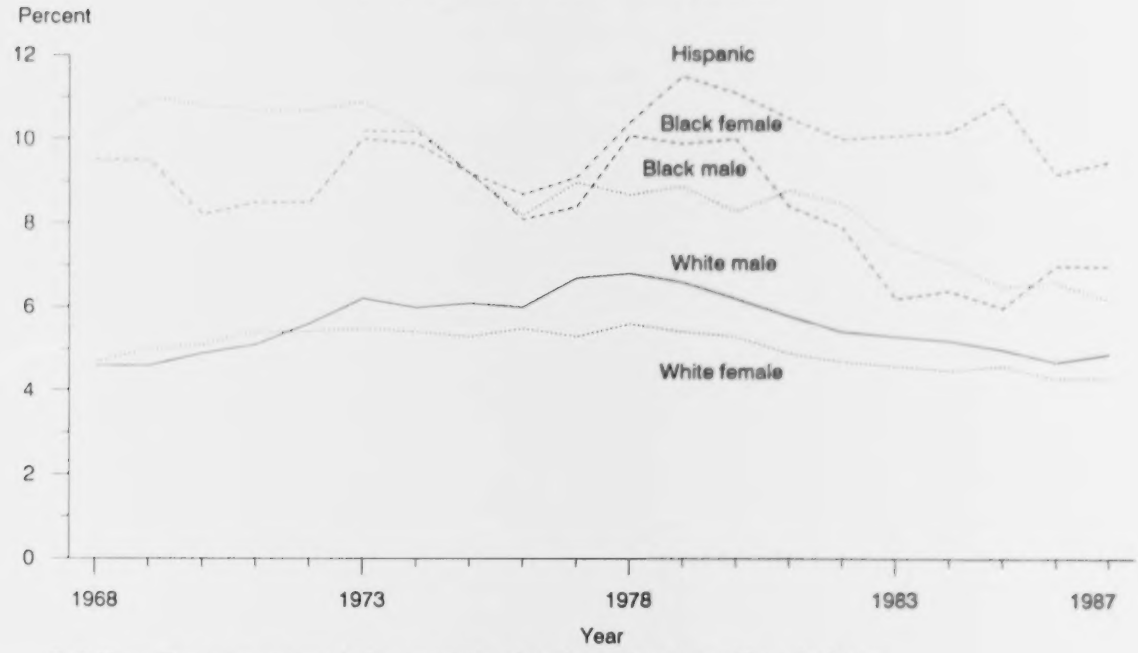
- Asian dropouts are most likely to complete; American Indian and Hispanics dropouts least likely. Black and white dropouts do not differ in their completion rates in the first few years after dropping out of high school.

- Dropouts from high SES backgrounds and with better grades while in school tend to complete more frequently than those from low SES family backgrounds and with poor grades.

- Dropouts are not a homogeneous group in terms of their characteristics or their behavior. Dropouts who complete tend to resemble students who never left school in their characteristics, experiences, and attitudes. Among all dropouts, those who do not even attempt to return to school differ the most from those who never left.

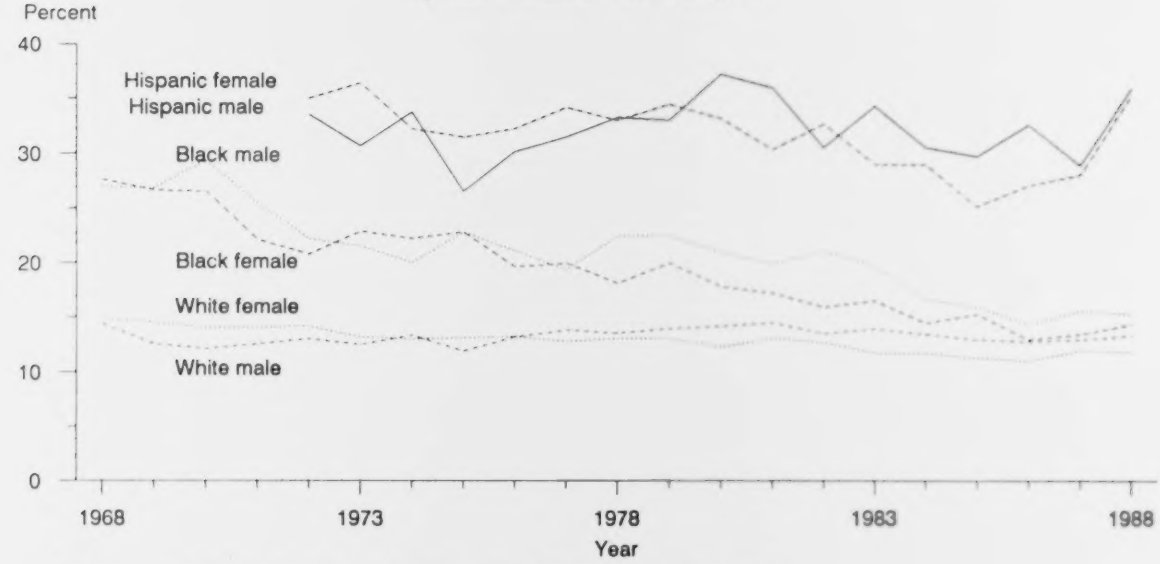
- The earlier the grade when a student drops out, the less likely s/he is to later complete high school and if s/he does complete, the more likely it is to be by means of an equivalency certificate.

Figure A. Average event dropout rate from grades 10-12, ages 14-24, by race/ethnicity by sex: 1968 to 1987



Definition: Event dropout rate is the proportion of students who drop out in a single year.

Figure B. Status dropout rate, ages 16-24, by race/ethnicity by sex: October 1968 to 1988



Definition: Status dropout rate is the proportion of the population who have not completed high school and are not enrolled at one point in time.

Note: Hispanics may be of any race.

Source: R. Kominski, "What Is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

INTRODUCTION

Concern about dropouts has increased considerably at all levels of government and society in recent years. As a result, the demand for data about dropouts has also increased and comes from a variety of sources, looking for many different types of information. At the present time, accurate and reliable information with which to answer many of the questions about dropouts is not available. The Congress and the National Center for Education Statistics (NCES) have taken steps to remedy this lack of data.

Legislation on Dropout Statistics. The new authorizing legislation for NCES, section 406 of the General Education Provisions (GEPA), as amended by the Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (P.L. 100-297) (20 U.S.C. 1221e-1) contains three mandates for the Center about the collection and reporting of dropout statistics. Specifically, NCES is to:

- o Conduct an annual survey of dropout and retention rates;
- o Report a dropout rate for a 12-month period to Congress every year; and
- o Establish a Special Task Force on Dropout and Retention Rates to develop and test an effective methodology for measuring dropout and retention rates.[1]

---

[1] The actual legislative language of the dropout provisions pertaining to NCES in Sec. 406 of GEPA, as amended is:

(f) (2) "In addition to other duties of the Commissioner under this section, it shall be the responsibility of the Commissioner to issue regular public reports to the President and Congress on dropout and retention rates, results of education, supply and demand of teachers and school personnel, libraries, financial aid and on such other education indicators as the Commissioner determines to be appropriate....

(g) (4)(A) The Center shall conduct an annual national survey of dropout and retention rates as an education indicator.

(B) The Commissioner shall appoint a special task force to develop and test an effective methodology to accurately measure dropout and retention rates. Not later than 1 year after the date of enactment of the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, the task force shall submit a report of its recommendations, including procedures for implementation of such recommendations, to the Commissioner and the appropriate committees of the Congress.

(C) On the second Tuesday after Labor Day of 1989 and on each such Tuesday thereafter, the Center shall submit a report to the appropriate committees of the Congress of the dropout and retention rate prevailing on March 30 of each such year."

This document is the 1989 NCES report to Congress on dropout and retention rates, the first of the annual reports due on the second Tuesday after Labor Day. The report focuses on two dimensions of the dropout issue: estimating the extent of the problem and describing the characteristics of those who have dropped out. Thus the focus is on answering two questions: What is the dropout rate? and Who are the dropouts?

Counting Dropouts. A major element in reporting data about dropouts is defining who is a dropout, since dropouts can be and are defined in a variety of ways. Furthermore, dropout rates can be calculated in many ways. In this report, three different types of dropout rates -- event, status, and cohort rates -- are discussed.

Currently, NCES is developing several new data collections intended to gather more extensive and reliable information about dropouts. These are described in Appendix C. However, it will be the early 1990s before improved data on dropouts will be available from any of these efforts, since it takes a considerable period of time to design, field test, and implement a new data collection.

In the meantime, NCES will continue to report national figures on dropouts from the existing sources. Therefore, this 1989 report and those for the next two to three years will draw primarily from two data sources: the Current Population Survey (CPS) conducted by the Bureau of the Census, and High School and Beyond (HS&B), a longitudinal survey conducted by NCES.

Types of Dropout Rates. There are several different ways of thinking about dropouts. First, the transition of a student from being in school to not being in school (without graduating in the meantime) indicates the event of dropping out. The number and rate of these transitions or events can be measured over a period of time, such as a school or calendar year. Second, the number of persons who have ever dropped out and not subsequently completed school can be counted at a given time. This reflects the status of persons in the population with respect to being a dropout at that point in time.

Both perspectives give valuable information: the former tells how many people left school without completing high school during a specific time period while the latter indicates how many dropouts there were in the population at a given point in time, regardless of when they had dropped out. When dropping out is reported as an event, a person is counted as a dropout only for the period in which the dropping out occurred. When reporting on dropout status, a person is counted as a dropout until and unless s/he completes high school. Data from CPS can be used to calculate both event and status rates.

A third perspective relates to the behavior of a given class, or cohort. For example, out of an entering ninth grade class, what proportion drop out at any time before graduating from high school or do not graduate with their class? Answers to these questions yield cohort dropout rates. Focusing on a single cohort makes it possible to answer questions about how many dropouts eventually complete high school with a diploma or an alternative credential. The HS&B 1980 sophomore cohort provides data on a single tenth grade cohort.

GEPA as amended requires that NCES report annually about retention rates. A student who has not dropped out (or graduated) is considered as having been retained in school for that year. This identifies retention in school as an event in a given year. For retention, the concept of status does not apply.

Completion Rates. Much of the discussion of dropout rates in the past has been based on measures of high school graduation or completion rates, from which estimates of dropout rates have been derived. Examples of these rates include percent of a certain age group having completed high school or "graduation rates" that show graduates as a percent of 9th graders four years earlier. These indirect estimates are not comparable to the direct measures of dropout rates utilized in this report, because they do not explicitly measure the phenomenon of dropping out.

They also tend to imply much higher dropout rates than the direct measures, for a variety of reasons. One such measure does not take into account the fact that 10 to 14 percent of 18- and 19-year-olds are still in high school. Other measures are not as comprehensive as CPS in counting high school completers, e.g., excluding private school graduates and those with equivalency credentials. Differences in data collection methodologies and the way in which the graduation measures are calculated may also contribute to lower estimates of graduation/completion rates. These rates are discussed in more detail in Appendix B.

Content of the report. The remainder of the report is organized around these different types of dropout rates. There are separate chapters on event, status, and cohort rates. For each type of rate, available data are presented about the number of dropouts, how the rate has changed over time, and the characteristics of dropouts in the most recent period. There is also a section about dropouts returning to school. How often does it occur and which dropouts are most likely later to complete their high school education? Appendices provide additional tables and technical material; other types of dropout-related measures; and information on current and potential data sources about dropouts.

The data presented in this report are derived from sample surveys. All comparisons in the text have been tested to ensure that the differences are unlikely to be the result of sampling variation rather than counting everyone in the population.[2] Appendix D discusses technical issues related to the definition and computation of the dropout rates presented in this report.

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[2] All comparisons discussed in the text are statistically significant at the .05 level. See Appendix D for details about the significance testing.

EVENT RATES

One approach to measuring the extent of the dropout problem is to examine how many students enrolled one year ago have since dropped out of school without obtaining a diploma or an equivalency certificate. Event dropout rates can be calculated for the 12-month period from one October to the next using data from the October Supplement to the Current Population Survey (CPS). In order to increase the ability to detect differences in event rates among subgroups and over time, three-year average event rates -- the average of the rates for three successive years -- were developed.[3]

Most recent event rates. Approximately 3.3 percent of all 14- to 24-year-old students dropped out of grades 8-12 each year, on average, during the three-year period from October 1985 to October 1988 (Table 1). The dropout rate was somewhat higher for those enrolled in grades 10-12, 4.4 percent. The retention rate in school for the three year period was about 96.7 percent for grades 8-12 and 95.6 percent for grades 10-12. (Calculation of these rates are discussed in the last section of this chapter.)

The 4.4 percent represents the proportion of all tenth to twelfth graders who dropped out of high school in a single 12-month period. Over three years, an annual dropout rate of 4.4 percent would translate into a dropout rate of about 12.6 percent for a group of tenth graders before they completed twelfth grade, or a school retention rate over three years of 87.4 percent. A seven percent annual dropout rate would result in a 20 percent dropout rate between tenth and twelfth grade; a ten percent annual rate would result in a 27 percent dropout rate between tenth and twelfth grade.

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[3] The first use of CPS data to calculate an event dropout rate was in U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October 1983," Current Population Reports, Series P-20, No. 413. The methodology for calculating the rates, the use of three-year averages, and rates for 1968 to 1985 were developed and analyzed by Robert Kominski on the staff of the Bureau of the Census. See R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989.

Table 1 displays the last three individual year rates in order to show how the three-year average is calculated. It is simply the sum of the three individual year rates divided by three. To give some sense of what has been happening in the most recent period, two-year average rates are also shown in Table 1 for the 1986-1988 period. For the rest of this section, only three-year averages will be used. There were no significant differences among the rates for single years or between the two-year averages in the period from 1986 to 1988.

Table 1. Event dropout and retention rates for ages 14-24: 1986-1988

Rate and year ending	Grade 8-12	Grade 10-12
	Percent	
Event dropout rate		
Single year		
1986*	3.27	4.28
1987	3.15	4.11
1988	3.56	4.82
Two-year average		
1986-1987	3.21	4.20
1987-1988	3.36	4.46
Three-year average		
1986-1988	3.33	4.40
School retention rate		
Single year		
1986*	96.73	95.72
1987	96.85	95.89
1988	96.44	95.18
Two-year average		
1986-1987	96.79	95.80
1987-1988	96.65	95.54
Three-year average		
1986-1988	96.64	95.60

* Data revised from previously published figures. See Appendix D.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished data.

While the event dropout rate may seem low when expressed as a percentage of all students enrolled in school, a large number of students drop out in a single year. The estimated 3.6 percent event dropout rate for students in grades 8 to 12 between October 1987 and October 1988 reflects 569 thousand 14- to 24-year-olds who dropped out during this one year. The 4.8 percent event rate for grades 10-12 represents 461 thousand students dropping out of high school in the 12-month period.

Who is most likely to drop out? While the national event dropout rate for grades 10-12 over the past three years has been approximately 4.4 percent, that rate was not uniform across all geographic locations or categories of students. For the three-year period, October 1985 to October 1988, event dropout rates were higher for minority students and for older students (Table 2). The rates for men and women were not significantly different. Dropout rates were higher in cities than in suburban and nonmetropolitan areas and in the South and West than in the Northeast (Table 2).

While event dropout rates for blacks and Hispanics were higher than for whites, the majority of dropouts were not black or Hispanic.[4] Of all dropouts, blacks constituted about 20 percent and Hispanics 16 percent during this period (Table 2). Most dropouts were between the ages of 16 and 19 at the time of the CPS survey, with nearly half being 18 or 19 at the time of the survey. Similar proportions of dropouts lived in central cities as in the suburbs, about forty percent. About 20 percent lived in nonmetropolitan areas.

Table 3 shows how event dropout rates of the three racial/ethnic groups varied within regions and types of metropolitan status. Because the black and Hispanic samples are small, further subdividing them makes the margin of error of the estimates rather large. As a result, despite the large range in dropout rates among subgroups in Table 3, the only difference within regions that is statistically significant is that between whites and Hispanics in the West. Within the categories of metropolitan status, the differences between whites and Hispanics are significant in central cities and suburbs. In all three cases, the event dropout rate for whites was lower than that for Hispanics. If sample sizes for blacks and Hispanics were larger, it is possible that more of the differences in Table 3 would be significant.

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[4] The racial/ethnic categories in the tables based on CPS data are not mutually exclusive. Most Hispanics are double-counted because Hispanic origin is considered an ethnic classification in CPS. In terms of race, most Hispanics are included in the white category based on self-identification, but some are included in the black category and a few identify themselves as "other," which is not shown in these tables.

Table 2. Average event dropout and retention rates (three-year average) and distribution of dropouts from grades 10-12, ages 14-24, by sex, race/ethnicity, age, region, and metropolitan status: 1986-88

	Event dropout rate	School retention rate	Percent of all dropouts
	Percent		
Total	4.40	95.60	100.0
Sex			
Male	4.62	95.38	53.2
Female	4.17	95.83	46.8
Race/ethnicity			
White	4.20	95.80	77.3
Black	5.78	94.22	19.8
Hispanic[1]	9.27	90.73	16.2
Age[2]			
14-15	2.11	97.89	1.6
16-17	2.77	97.23	37.2
18-19	6.03	93.97	47.3
20-24	22.72	77.28	13.9
Region			
Northeast	3.17	96.83	14.6
Midwest	4.19	95.81	24.7
South	5.04	94.96	38.5
West	4.86	95.14	22.1
Metropolitan status			
Central city	5.86	94.14	37.8
Suburban	3.66	96.34	40.4
Nonmetropolitan	4.19	95.81	21.9

[1] Hispanics may be of any race.
[2] Age when a person dropped out may be one year younger, since the dropout event could occur at any time over a 12-month period.
Note: Percentages may not sum to 100 percent due to rounding.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

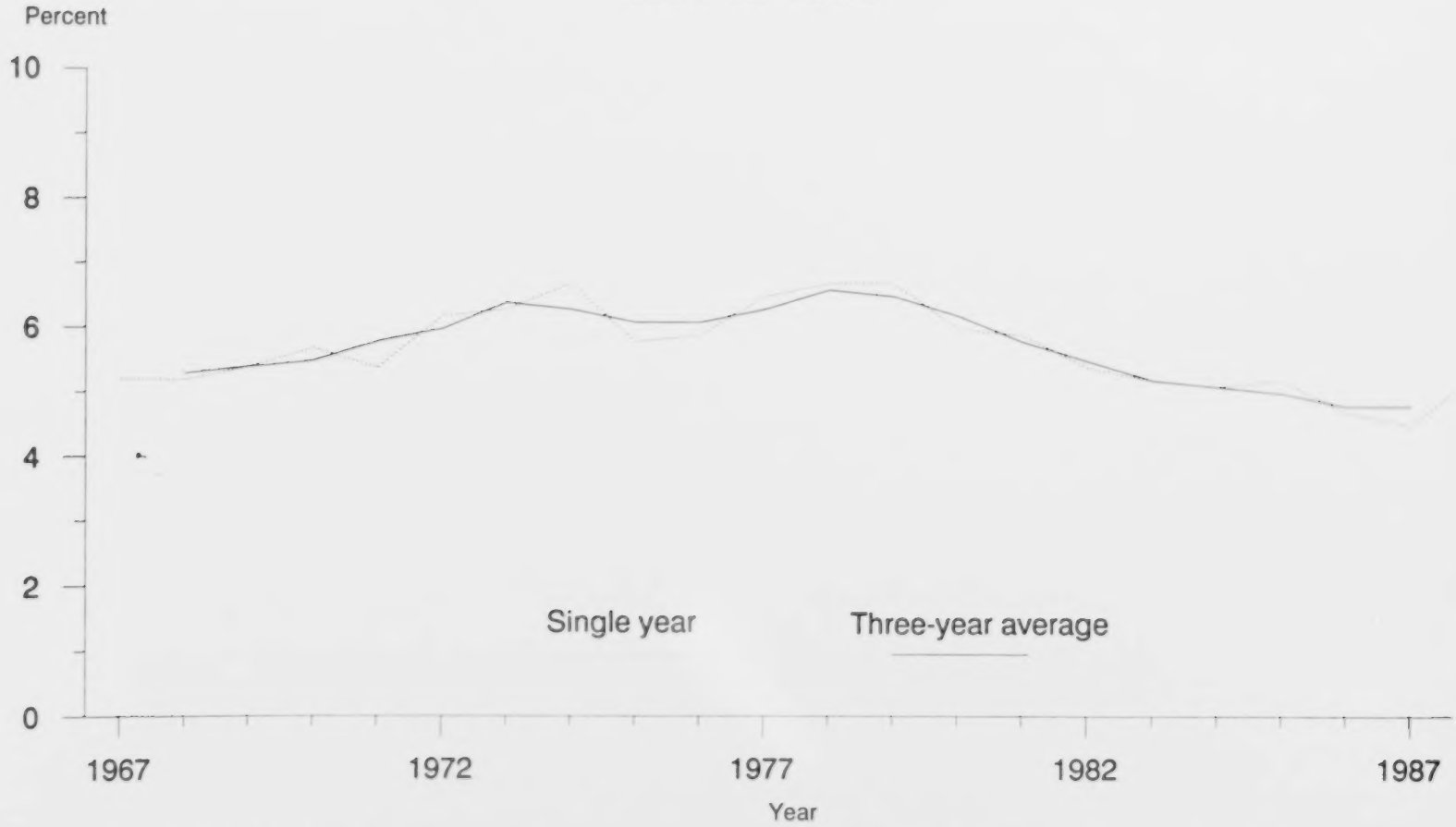
Table 3. Average event dropout rate (three-year average) from grades 10-12, ages 14-24, by region and metropolitan status by race/ethnicity: 1986-88

Region and metropolitan status	Total	Race/ethnicity		
		White	Black	Hispanic*
	Percent			
Total	4.40	4.20	5.78	9.27
Region				
Northeast	3.17	2.83	6.12	8.17
Midwest	4.19	3.87	7.10	7.75
South	5.04	4.86	5.44	9.62
West	4.86	5.09	4.33	9.96
Metropolitan status				
Central city	5.86	5.49	7.21	10.26
Suburban	3.66	3.67	4.04	7.79
Nonmetropolitan	4.19	4.13	4.25	11.44

* Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Changes in dropout rates over time. The latest three-year average event dropout rate for grades 10-12 in 1987 was approximately the same as it was twenty years ago. However, in the interim period, the dropout rate rose for about ten years and has fallen since the late 1970s (Figure 1 and Table A1). For 1978, the average event rate was 6.6 percent. Graphing both the three-year averages and rates for single years (Table A2) since 1967 in Figure 1 demonstrates how the three-year average is somewhat more stable than the single-year rates.

Figure 1. Event dropout rate for grades 10-12, ages 14-24, by single year and three-year averages: 1967 to 1988



Note: In order to facilitate comparisons with earlier years, rates for 1986 to 1988 have been adjusted to take into account changes in data editing procedures. Therefore, the rates for these years may be slightly higher than those shown in Table 1. See Appendix D for a discussion of the adjustment procedure.

Source: R. Kominski, "What Is the National High School Dropout Rate?," unpublished paper, March 1989, U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Over the past two decades, trends for white males and females were similar to those for the total population (Figure 2 and Table A3). The event dropout rate rose for both males and females between 1968 and 1978 and decreased after that. The net effect over the entire period for males was no change in the dropout rate and a slight decrease for females. Between 1968 and 1986, the rates for white males tended to be slightly higher than for white females.[5]

For blacks, event dropout rates for males and females did not differ significantly over the twenty-year period as a whole (Figure 2 and Table A3). However, for both groups the rates have declined over this period. Rates for black males have been declining since the early 1970s. While rates for black females have been more erratic, they have declined in the 1980s. The result has been a considerable narrowing of the differences between the rates for blacks and whites, especially in the 1980s. Rates for Hispanics have shown no consistent trend over the past 15 years (Figure 2), but have remained high throughout the period.[6]

While the current attention to the dropout issue may have conveyed the impression that the dropout rate is presently very high and has been increasing, national data do not confirm that picture. In fact, while there was an increase in the annual dropout rate between 1968 and 1978, since then the rate has been declining. Furthermore, while dropout rates for black youth are still higher than for white youth, the differential between the rates for whites and blacks has narrowed considerably.

Data Source. The Current Population Survey's October Supplement is the only existing national data source that can be used to estimate an annual national dropout rate (event) or the number of dropouts nationally regardless of when they dropped out (status). It is also the only source of time series data about dropout rates.

The CPS is a nationally representative sample survey of all households. The annual October Supplement obtains information about school enrollment and educational attainment for each member of a household. To identify dropout events, it asks about enrollment one year prior to the interview. For calculating a 12-month event rate, dropouts are defined as those not currently enrolled in school, who were enrolled October a year ago and are not high school graduates.

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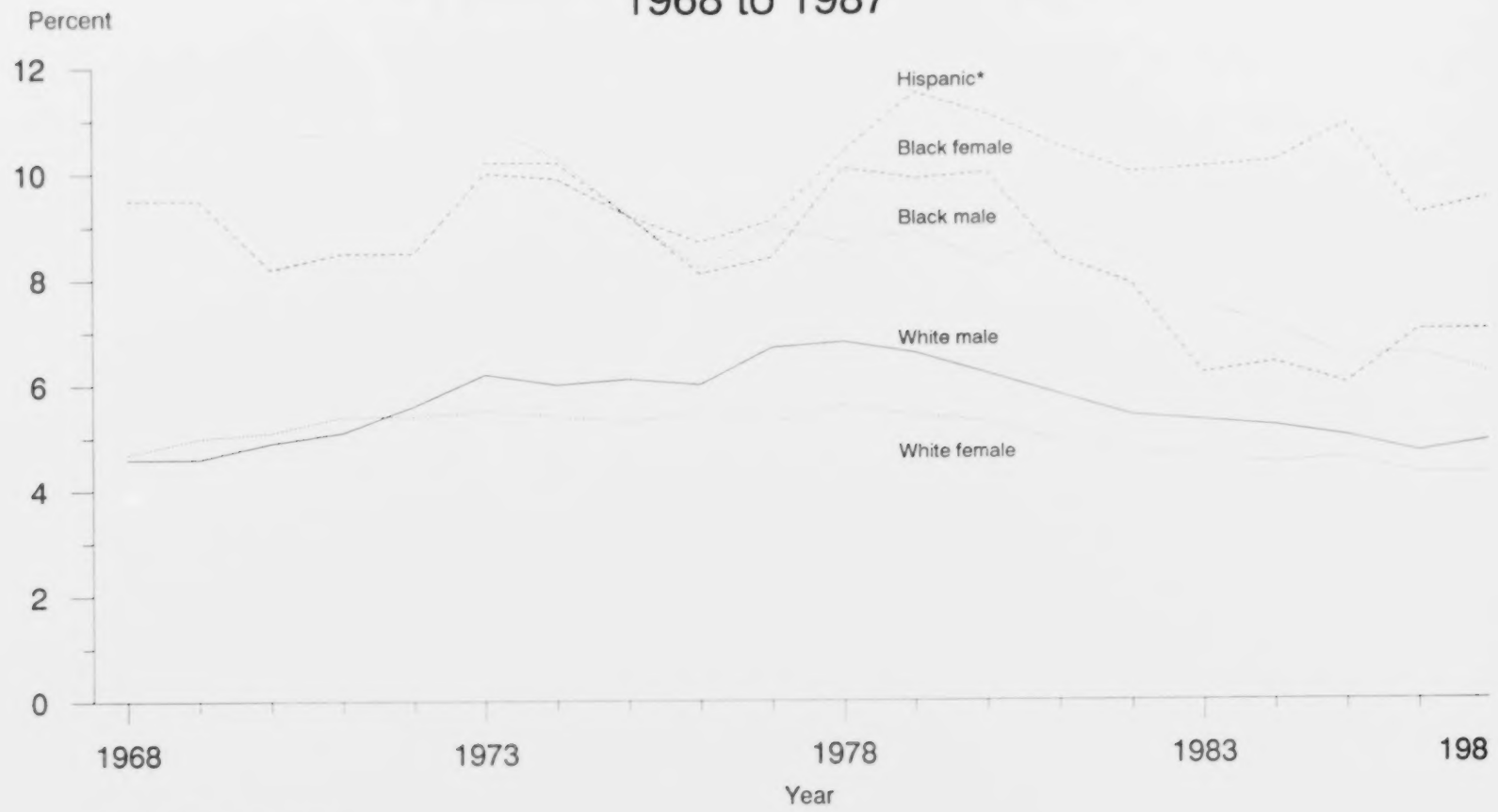
[5] The difference between white males (4.4 percent) and females (4.0 percent) for the most recent three-year period (1986-1988) was not statistically significant.

[6] Part of the problem in examining rates for Hispanics using CPS is the relatively small sample size for that population. The margins of error for estimates of Hispanic dropout rates are relatively large, 1 percent or more.

Figure 2. Average event dropout rate from grades 10-12, ages 14-24, by race/ethnicity by sex: 1968 to 1987



*Hispanics may be of any race.

Note: In order to facilitate comparisons with earlier years, rates for 1986 and 1987 have been adjusted to take into account changes in data editing procedures. See Appendix D for adiscussion of the adjustment procedure

Source: R. Kominski, "What Is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations

Because the CPS sample captures relatively few individuals who have dropped out in the last 12 months (approximately 350-400 in the nearly 60,000 CPS households), national estimates of dropout event rates are not very precise and estimates for subgroups, such as racial/ethnic groups, are even less so. Therefore, the CPS data for single years are not very helpful for monitoring changes in event rates on a year-to-year basis or differences among subgroups, since only relatively large differences are statistically significant.[7]

However, averaging rates over three years yields estimated event rates which are somewhat less erratic and have smaller standard errors, because they are based on larger sample sizes.[8] This makes differences over time and between groups easier to detect. Three-year averages are reported in this section. The three-year average is attributed to the middle of the three years.

CPS asks the question on enrollment the previous October only about individuals 14 years and older. Except for Table 1, tables in this section display dropout event rates for people 14 to 24 and for grades 10 to 12. Lower grades are not included because many currently enrolled students and some dropouts from those grades are less than 14 years old. Included in the grade 10-12 rate are students who completed the ninth grade last year, but did not return in the fall to begin tenth grade.

CPS contains somewhat limited information about individual characteristics. Measures of socioeconomic status refer to the time of the survey, which is after, not before, the event of dropping out. Data are available on race and ethnicity and much of the analysis in this report is based on differences among racial/ethnic groups. Race and ethnicity may in fact not be the operant variables, but serve as proxies for background variables such as income, education, and single-parent families, which tend to be correlated both with race/ethnicity and the likelihood of dropping out.

In response to statutory specification for dropout data as of March, NCES intends to produce a supplement to this report with data available from the March 1988 CPS Supplement, comparing the dropout rates from the March CPS to those from the October survey.

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[7] Given the 1988 level of event dropout rates and CPS sample sizes, for a year-to-year change in the event rate to be significant at the .05 level, the change would have to exceed .9 percent for the national rate, 2.8 percent for blacks, and 5.1 percent for Hispanics.

[8] R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989.

STATUS RATES

Another approach to measuring the magnitude of the dropout problem is to examine the number of individuals who are dropouts at any given point of time, regardless of when they left school. Status dropout rates can be calculated from CPS data using as the definition of a dropout, anyone who is not enrolled in school at the time of the October CPS survey and who has not completed high school. High school completion may be through obtaining a high school diploma or equivalency certificate. Except for Table 5, the tables in this section present data on status dropout rates for those 16- to 24-years old as of October 1988.

Trends in status dropout rates. In October 1988, approximately 4.2 million 16- to 24-year-olds were out of school and had not completed high school (Table 4). This represented nearly 13 percent of such young adults. The long-term trend for the status dropout rate has been downward. Between 1968 and 1986 that rate fell by almost one-fourth, from 16 to 12 percent (Figure 3 and Table A4).[9] In the short-term, there was a slight increase between 1986 and 1988, from 12.1 to 12.9 percent.

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[9] Over a longer period, the decline in the status dropout rate has been quite dramatic. For those ages 55 and older, the status dropout rate in 1988 was 39 percent, and the rate was 21 percent for those between 45 and 54 years old. Because of the very high proportion who did not complete high school among those 55 and older, that age group accounts for about half of all dropouts. In the entire population 16 and over, there were approximately 39.4 million status dropouts in October 1988, of whom 19.6 million were 55 or older.

Table 4. Rate and number of status dropouts, ages 16-24: October 1986, 1987, and 1988

	October 1986	October 1987	October 1988
Status dropout rate (percent)	12.08*	12.71	12.86
Number of status dropouts (in thousands)	4,101*	4,251	4,231
Population (in thousands)	33,942	33,452	32,893

* Data revised from previously published figures. See Appendix D.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

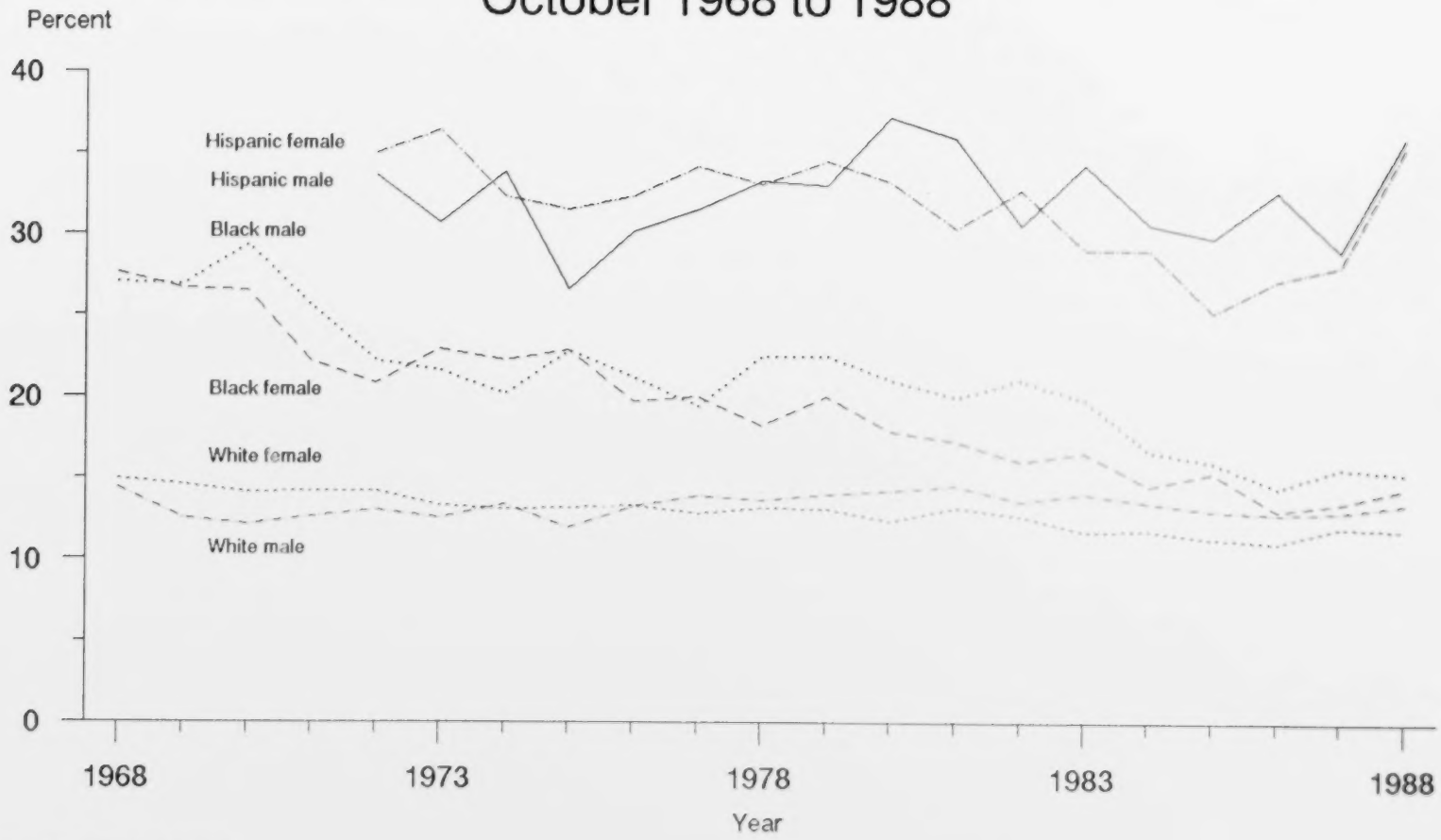
What are the characteristics of dropouts in the population? Variations among population subgroups for the status measure of dropping out are generally similar to those for the event measure (Table 5). Status dropout rates were higher for minorities and in the South and West. They were highest in central cities and lowest in suburbs. Particularly striking was the very high status dropout rate for young Hispanics in October 1988, nearly 36 percent.

Race and status dropout rates. Similar to the patterns for event dropout rates, the differences between the status dropout rates of black and white young adults have narrowed considerably in the last 20 years (Figure 3; Tables A4 and A6). In 1968, the rate for blacks was nearly double that for whites, 27.4 percent and 14.7 percent respectively. In the late 1980s, the rates for blacks have fallen to the levels of whites in the late 1960s. The rates for whites have declined much less than those for blacks over the twenty years.

The substantial decline in black status dropout rates was evident for both males and females in the 1968-1986 period. Among whites, there was a slight decline for females, but not for males.

Among Hispanics as a group and for Hispanic males, there was no decline in status dropout rates over this period. However, there was some decline for Hispanic females. The most striking characteristic of dropout rates for Hispanics is their volatility, which is due, at least in part, to the small CPS sample size for Hispanics. Between 1986 and 1988, the status dropout rate for Hispanic males varied from 32.7 percent in 1986 to 29.0 percent in 1987 to 36.0 percent in 1988. The rates for Hispanic females for the three years were 27.2 percent, 28.1 percent, and 35.5 percent.

Figure 3. Status dropout rate, ages 16-24, by race/ethnicity by sex: October 1968 to 1988



Note: Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment -- Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table 5. Rate and number of status dropouts, ages 16-24, by sex, race/ethnicity, age, region, and metropolitan status: October 1988

	Status dropout rate (percent)	Number of status dropouts (in thousands)	Population (in thousands)
Total	12.86	4,231	32,893
Sex			
Male	13.52	2,181	16,132
Female	12.23	2,050	16,761
Race/ethnicity			
White	12.66	3,423	27,043
Black	14.87	698	4,693
Hispanic*	35.78	1,169	3,269
Age			
16	5.30	184	3,477
17	8.08	298	3,683
18	13.96	535	3,834
19	15.26	528	3,459
20	14.61	508	3,476
21	14.58	510	3,498
22	16.06	564	3,510
23	13.47	518	3,847
24	14.27	586	4,108
Region			
Northeast	10.63	705	6,631
Midwest	9.27	778	8,392
South	14.99	1,672	11,159
West	16.03	1,076	6,711
Metropolitan status			
Central city	16.11	1,764	10,953
Suburban	10.47	1,598	15,269
Nonmetropolitan	13.04	870	6,671

* Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

The majority of status dropouts are white (Tables 5 and A5; Figure 4), as was the case for event dropouts. Since 1986, Hispanics have outnumbered blacks among status dropouts.

Status dropout rate by sex. Over the past 20 years, there has been a change in the relationship between sex and the status dropout rate. In part, this reflects different trends in the rates for males and females over the period. The rates for women generally declined throughout the period. The decline in male rates was broken by an increase in rates during the second half of the 1970s. In 1980, the rate for males was not lower than it had been in 1969, whereas the rate for females had declined by nearly three percentage points between 1969 and 1980. As a result, at the beginning of the period the rate was higher for females than for males, but since 1977, the rates for males have been higher (Figure 5 and Table A6).

Some of the difference in male and female trends may reflect the influence of the draft. CPS covers the civilian, noninstitutionalized population. In part because of the exclusion of the military, the CPS estimates for the number of 16- to 24-year-old males are lower than for females of the same age throughout the period. However, the size of that differential declined -- from two million more females than males in 1968 and 1969 to 400-600 thousand more females since 1981 -- as the size of the Armed Forces decreased with the end of the Vietnam War. In addition, the transition to the all-volunteer Army was accompanied by an increase in standards for recruits, so that the military was no longer an alternative for dropouts, especially for males. This may partially account for the shift from approximately one-half million more female than male dropouts in 1968-1970 to about equal numbers of males and females among dropouts in 1977-1979 to 100-350 thousand more male dropouts since 1980.

Over the period from 1968 to 1986 as a whole, the rates for black females were significantly lower than those for black males. White males and females exhibited the same pattern as the total population, with rates for females being higher than for males in the first part of the period and lower since the late 1970s. In 1988, the status dropout rate for white males (13.5 percent) was significantly higher than for white females (11.9 percent). The rates for males and females did not differ for blacks and Hispanics in that year (Table A6).

There are significant differences between the sexes and racial/ethnic groups in enrollment/completion patterns by age (Tables 6 and B2). Males and blacks tend to take longer to complete high school than females and whites. Higher proportions of males and blacks were still enrolled in grade 12 or below at ages 18 and 19. As a result, for the age group 18 to 19, the completion rates (that is, the percent who have completed high school) were lower for males and blacks than for females and whites respectively. For 20- to 21-year-olds, the differences in completion rates were not significant as few people were still enrolled below college.

Figure 4. Number of status dropouts, ages 16-24, by race/ethnicity: October 1968 to 1988

Note: Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment-- Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Figure 5. Status dropout rate, ages 16-24, by sex: October 1968 to 1988

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table 6. High school completion status by age by race/ethnicity and sex: October 1988

Age	Total	Race/ethnicity			Sex	
		White	Black	Hispanic*	Male	Female
		Percent enrolled in high school or below				
18-19	13.9	11.7	23.7	16.4	18.4	9.4
20-21	.6	.7	.3	2.0	.9	.4
		Percent completed high school				
18-19	71.6	74.0	58.4	52.4	65.9	77.1
20-21	84.9	85.2	81.5	54.9	82.8	86.7
		Percent high school dropouts				
18-19	14.6	14.3	17.9	31.2	15.6	13.5
20-21	14.6	14.2	18.2	43.2	16.3	13.0

* Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Region and metropolitan location. While for the nation as a whole, blacks ages 16 to 24 were more likely than whites of the same age to be status dropouts, the patterns were somewhat different when place of residence is taken into account. Comparing blacks and whites who live in similar types of locations may have the effect of comparing more like individuals with one another than when all blacks are compared with all whites regardless of where they live. For those living in central cities and in suburban locations, blacks and whites did not differ in their status dropout rates and for both blacks and whites, dropout rates were much higher in the cities than in the suburbs (Table 7).

One explanation for the higher overall dropout rates for blacks is that a majority of blacks (58.2 percent) lived in central cities where dropout rates were high, whereas about half the whites (50.3 percent) lived in the suburbs where the rates were much lower. Another is relatively high dropout rates for blacks living in nonmetropolitan areas. These rates were as high as those for blacks living in central cities. Slightly lower proportions of blacks (16.5 percent) than whites (21.4 percent) lived in nonmetropolitan areas. Status dropout rates were high for Hispanics wherever they lived.

Table 7. Status dropout rate, ages 16-24, by region and metropolitan status by race/ethnicity: October 1988

Region and metropolitan status	Total	Race/ethnicity		
		White	Black	Hispanic*
	Percent			
Total	12.86	12.66	14.87	35.78
Metropolitan status				
Central city	16.11	16.14	16.76	37.12
Suburban	10.47	10.75	9.13	34.74
Nonmetropolitan	13.04	12.52	17.01	30.43
Region				
Northeast	10.63	9.62	16.94	37.43
Midwest	9.27	8.71	14.20	28.19
South	14.99	14.82	15.82	28.59
West	16.03	17.62	7.20	41.58

*Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

At the national level, status dropout rates were higher for blacks than for whites. This was also the case within the Northeast and Midwest regions (Table 7). In the South, rates for blacks and whites did not differ significantly. In the West, the status dropout rate for whites was more than double that for blacks. This is because the "white" population in the West includes a high proportion of Hispanics, whose dropout rates were very high in every region.

In fact, the racial/ethnic composition of the dropout population in the West differs considerably from the rest of the country. Whereas nationally, Hispanics accounted for 28 percent of the dropouts in 1988, in the West they were 58 percent of the dropouts. When the Hispanics are separated from the rest of the white population in the West, the dropout rates for the remaining whites are much lower (9.1 percent). The dropout rates for white, nonHispanics and black, nonHispanics (6.7 percent) in the West did not differ significantly.

Amount of education completed by dropouts. About 50 percent of dropouts ages 16-24 had completed 10 or 11 years of schooling, dropping out in the last two years of high school (Table 8). On the other hand, approximately 12 percent had completed six years of elementary school at most. These patterns did not vary much among the regions with one notable exception. While no more than one out of every 12 dropouts had completed 6 years of school or less in the other three regions, one out of every four dropouts in the West had completed so little schooling. Hispanic dropouts are far more likely than nonHispanic dropouts to have completed six years of schooling or less. Hispanics constitute a much higher proportion of dropouts in the West than in any other region, and this is the reason for the high proportion of dropouts with six or less years of school completed in that region.

Table 8. Highest grade completed by status dropouts, ages 16-24, by region and ethnicity: 1988

Region and ethnicity	Highest grade completed					
	6 or less	7	8	9	10	11
	Percent					
Total	12.4	3.8	12.7	19.5	25.1	26.5
Region						
Northeast	8.5	3.4	12.5	21.6	28.1	26.0
Midwest	6.0	1.8	12.8	16.0	28.4	35.0
South	7.6	6.0	14.6	24.2	26.0	21.5
West	27.0	2.2	9.6	13.5	19.3	28.5
Ethnicity						
Hispanic	31.4	4.8	14.3	16.1	17.7	15.8
NonHispanic	5.1	3.5	12.0	20.9	28.0	30.6

Note: Rows may not sum to 100 percent due to rounding.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

The current location of status dropouts does not necessarily represent where those individuals lived at the time they dropped out of school. They may have moved since they dropped out -- within the same state, between states in the same region, between regions, or even from one country from another. For example, the high percentage of Hispanic dropouts having no more than an elementary school education may reflect a relatively high proportion of non-native-born individuals. However, regardless of where they lived when they last attended school, the current residence of status dropouts reveals where there are education deficits among the young adult population.

COHORT RATES

The richest and most comprehensive national source of data currently available to examine issues related to high school dropouts is the High School and Beyond (HS&B) survey conducted by NCES. This longitudinal survey began in spring 1980 with cohorts of seniors and sophomores. Approximately 30,000 sophomores participated in the base year survey, and subsamples of this cohort were re-surveyed in 1982 (first follow-up), 1984 (second follow-up), and 1986 (third follow-up). High school transcripts were obtained in 1982 for over half the sophomore cohort. Third follow-up data have been used throughout this report unless otherwise noted. Approximately 13,400 individuals from the sophomore cohort participated in the third follow-up.

Missing from the cohort is anyone who dropped out prior to spring of their sophomore year. Thus, the overall cohort dropout rate is probably lower than it would be if a younger cohort were used. This may be particularly important for Hispanics, given that CPS data show Hispanic dropouts tend to have completed less schooling than other dropouts. NCES' new longitudinal study, NELS:88, begins with an eighth grade cohort.

The dropout rates in this report using third follow-up data vary somewhat from those cited in earlier reports using first or second follow-up data. (See Appendix D for a discussion of why several different dropout rates are possible based on the HS&B sophomore cohort.) In this report, whether a person was classified as a dropout or not was based on their response to an item on the third follow-up questionnaire about high school completion.[10] If an individual responded that s\he had graduated with their class or earlier,

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[10] The questionnaire item from the third follow-up is:

With regard to your high school education, please indicate which of the following applies to you. (CIRCLE ONE)
1. Graduated with class or earlier
2. Left high school but returned to earn a regular diploma
3. Left high school but since earned an equivalent certificate (such as GED)
4. Currently working toward a regular high school diploma
5. Currently working toward an equivalent of high school diploma (such as GED)
6. Did not graduate or earn an equivalent certificate

s\he was classified as a nondropout. Everyone else was classified as a dropout. For the few people who did not provide a valid response to this item, other items were utilized to determine whether they were a dropout. Using this definition of a dropout for those in the sophomore cohort participating in the third follow-up, 17.3 percent of 1980 sophomores were identified as high school dropouts.[11]

HS&B contains a great deal of background information about individuals as well as information about school experiences. Tables 9, 10, and 11 present cohort dropout rates for a number of variables, which have been shown to be related to differences in dropout rates in previous reports from HS&B.[12]

Background characteristics. Several socio-demographic characteristics were related to the likelihood of dropping out among 1980 sophomores (Table 9). Males were more likely to drop out than were females, a pattern that generally appeared for both event and status rates in the past ten years. Also similar to the rates derived from CPS data, rates for blacks and Hispanics were higher than for whites, with Hispanic students more likely to drop out than black students.[13] Data on students from two additional minority groups are available in HS&B. Asian students were the least likely to drop out, 8.2 percent, which was less than half the rate for the cohort as a whole. American Indian/Alaskan Natives dropped out at more than double the rate for the group as a whole, 35.5 percent.

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[11] This definition was developed by Teresita Chan Kopka and was first used in T. Kopka, "Employment, Earnings, and Job Satisfaction of 1980 High School Sophomore Dropouts," Education Data Tabulation, U.S. Department of Education, National Center for Education Statistics: January 1989.

[12] S. Peng, "High School Dropouts: Descriptive Information from High School and Beyond," NCES 83-221b, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, November 1983; Aaron Pallas, "School Dropouts in the United States," in The Condition of Education, 1986 edition, Washington, D.C.: U.S. Government Printing Office, 1986; S. Barro and A. Kolstad, Who Drops Out of High School? Findings from High School and Beyond, CS 87-397c, Washington, D.C: U.S. Department of Education, National Center for Education Statistics, May 1987.

[13] The racial/ethnic categories reported using HS&B data are mutually exclusive. Whites are white, not of Hispanic origin and blacks are black, not of Hispanic origin.

Table 9. Cohort dropout rate and proportion of total dropouts for 1980 sophomores by socio-demographic and geographic characteristics

Characteristic	Cohort dropout rate (percent)[1]	Proportion of total dropouts[2]
Total	17.3	100.0
Sex		
Male	19.3	55.5
Female	15.2	44.5
Race/ethnicity		
White	14.8	65.7
Black	22.2	17.4
Hispanic	27.9	13.1
Asian	8.2	.6
Am. Indian/Alaskan Native	35.5	3.1
Home language background		
NonEnglish only	20.1	1.9
NonEnglish predominant	20.8	3.5
English predominant	12.7	7.9
English only	14.5	86.7
Socioeconomic status		
Highest quartile	6.6	8.4
Second quartile	10.2	15.3
Third quartile	14.3	20.3
Lowest quartile	22.1	28.7
Unknown	78.0	27.5
Family structure		
Both parents present	12.3	68.2
One parent present	21.6	26.7
Other	32.6	5.1
Region		
Northeast	13.7	17.6
Midwest	14.8	24.1
South	19.5	36.8
West	21.7	21.5
Metropolitan status		
Urban	24.5	30.7
Suburban	15.1	41.7
Rural	15.6	27.6

[1] Rates differ from those previously published. See Appendix D.
[2] Proportion of dropouts with nonmissing data except for SES.
Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Students who in the base year had a variety of disadvantages were more likely to drop out than their more advantaged peers. Those whose home language background was only or predominantly nonEnglish dropped out more than those whose home language background was English only. Students from single-parent families had higher dropout rates than those where two parents were present in the base year. Socioeconomic status (SES) was also associated with dropout rates. The higher the base year family SES, the less likely a student was to drop out of high school.

Dropout rates in the HS&B 1980 sophomore cohort varied by geographic location in patterns similar to those found in the CPS data. Dropout rates were lower for students attending high school in the Northeast and Midwest in 1980 than for students in the South and West. Dropout rates were 50 percent higher for students in urban high schools than in suburban or rural high schools. Nearly one out of four students in urban high schools became dropouts.

Many of the groups with the highest dropout rates represented relatively small proportions of the total 1980 sophomore cohort. Therefore, simply examining dropout rates for various groups can give a misleading picture of the characteristics of dropouts as a whole. Thus, while dropout rates were higher for most minority groups (Figure 6a), those from nonEnglish language home backgrounds, and those from single-parent families, the majority of dropouts did not have these characteristics (Table 9). Of all dropouts, 66 percent were white (Figure 6b) and 68 percent came from two-parent families.

Student behaviors. Certain student behaviors are indicators of the likelihood of dropping out. These behaviors are not necessarily causes of dropping out -- other factors may be related to both these behaviors and dropping out, but there are strong associations between the behaviors and dropping out.

By the time of the first follow-up (spring 1982), relatively few members of the sophomore cohort, less than five percent, were married or had children. However, among those who were, the dropout rates were extraordinarily high (Table 10). So high, that such students accounted for 20 percent of all dropouts. These percentages may actually be somewhat understated, since they do not take into account pregnancies as of the first follow-up or pregnancies and marriages after the first follow-up, but prior to the expected graduation date for the cohort (May/June 1982).

Those who later dropped out of high school were more likely than nondropouts to have had a history of difficulty with school authorities or the law as of the time of the base year survey (Table 10). One-fourth to one-third of students who reported they had been in serious trouble with the law, had been suspended or on probation from school, or in the last year had disciplinary problems in school later became dropouts. However, most students with such past difficulties managed to remain in school.

Figure 6a. Dropout rate for 1980 sophomore cohort by race/ethnicity

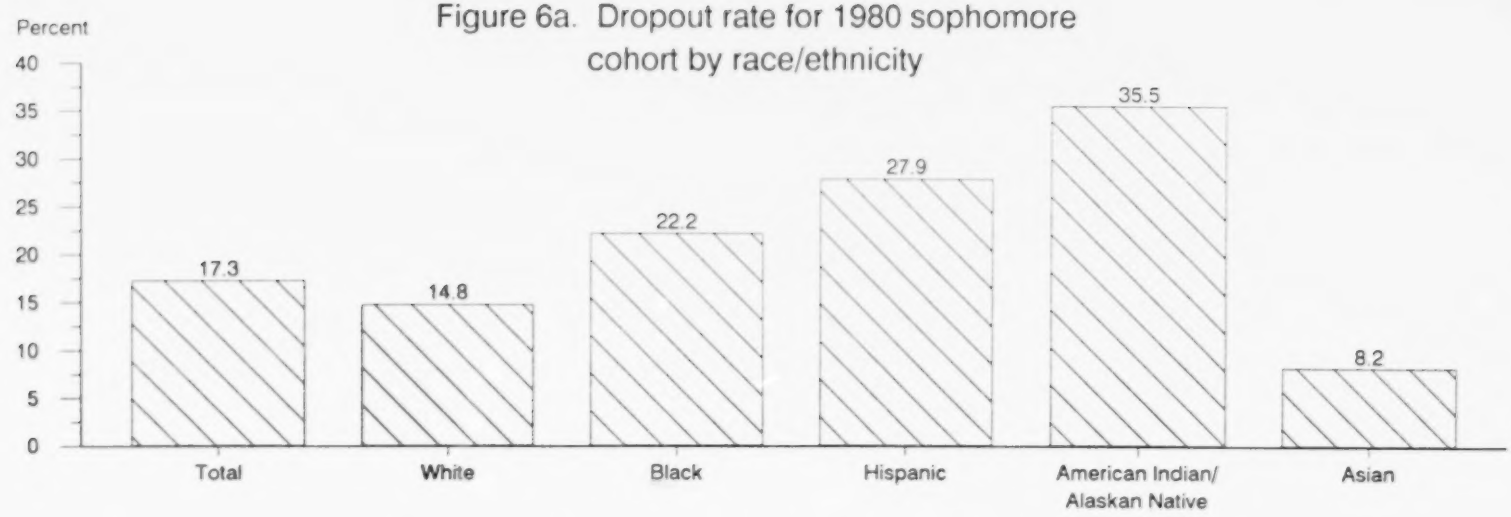
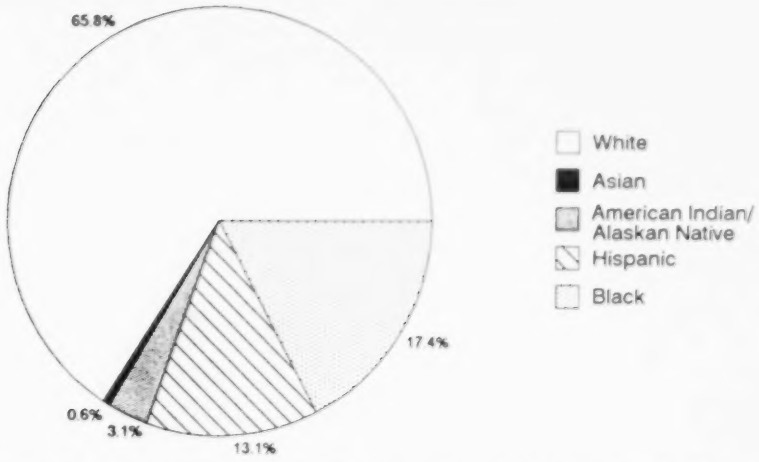


Figure 6b. Composition of dropouts for 1980 sophomore cohort by race/ethnicity



Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Survey, sophomore cohort, unpublished tabulations.

Table 10. Cohort dropout rate and proportion of total dropouts for 1980 sophomores by family formation in 1982, and antisocial behavior patterns in 1980

	Cohort dropout rate (percent)[1]	Proportion of total dropouts[2]
Total	17.3	100.0
Family formation, 1982		
Married, with children	80.0	6.8
Married, no children	69.3	6.8
Unmarried, with children	45.5	6.4
Unmarried, no children	13.8	80.0
Disciplinary problems in school during last year		
Yes	27.9	--
No	10.2	--
Suspended or on probation from school		
Yes	32.6	--
No	11.0	--
Serious trouble with the law		
Yes	33.4	--
No	12.6	--

-- Data not shown because more than 30 percent of the weighted sample of dropouts were missing data on this variable.
[1] Rates differ from those previously published. See Appendix D.
[2] Proportion of dropouts with nonmissing data for each variable.
Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

School experiences. HS&B gathered a variety of information about the students' schools and their experiences within those schools. This represents one of the strengths of this database as compared to CPS, which contains no information related to the schools dropouts and nondropouts have attended. Table 11 displays dropout rates for a variety of school-related variables.

The type of school a student attended was associated with the likelihood of dropping out. Dropout rates were lowest in Catholic schools, about five percent. The rates were somewhat higher in other types of private schools, 11 percent, but still considerably below the 18 percent rate in public schools.

The student's school program was also related to dropout rates. Only six percent of those who in the base year survey identified themselves as being in an academic program became dropouts. Students in vocational or general programs dropped out at much higher rates, 20 and 18 percent respectively.

Several measures indicate a strong relationship between a student's success in school as of the tenth grade and the probability that s/he would become a dropout (Table 11). This was evident in terms of grades, whether a student was overage for grade, or had ever repeated a grade. The higher the student's self-reported grades, the less likely s/he was to drop out. Less than two percent of A students dropped out, whereas more than half of those getting D's and F's did. The dropout rate for those who had repeated a grade was more than double the rate for those who had not. In general, the older a student was at the beginning of 9th grade, the greater the likelihood of dropping out sometime before graduation.

A powerful predictor of whether a student would eventually drop out was the attendance record during the first four months of tenth grade (Table 11). The more days a student had missed for reasons other than illness prior to Christmas during the 1979-80 school year, the greater the chances s/he would become a dropout. Those who missed 0 to 2 days had dropout rates under ten percent, while those missing more than ten days had dropout rates of 45 percent or more. Sophomores who missed a lot of school for reasons other than being sick may already have been well on their way to dropping out. For many students, dropping out is not so much an event that occurs at a specific point in time, but a process representing a gradual disengagement from school over time. A student may begin cutting classes, then skipping a whole day or two at a time, then longer periods, until finally there comes a time when s/he just never goes back. Other students may attend sporadically for awhile and then begin attending regularly again. Students missing more than 20 days of school for reasons other than sickness by Christmas of their sophomore year had already indicated rather limited commitment to school at that point in their lives.

Table 11. Cohort dropout rate and proportion of total dropouts for 1980 sophomores by 1980 school experiences

	Cohort dropout rate (percent)[1]	Proportion of total dropouts[2]
Total	17.3	100.0
School type		
Public	18.3	96.2
Catholic	4.9	1.7
Other private	10.9	2.1
School program		
Academic	5.8	13.6
Vocational	20.4	30.3
General	17.5	56.1
Grades		
Mostly A's	1.5	1.1
A's and B's	5.0	6.0
Mostly B's	6.6	8.3
B's and C's	13.6	24.7
Mostly C's	20.8	20.2
C's and D's	34.6	23.0
Mostly D's or less	56.5	16.7
Held back or repeated a grade		
Yes	31.2	29.1
No	14.1	70.9
Age at beginning of 9th grade		
15 1/2 or older	52.1	18.6
15 or 15 1/4	31.0	14.3
14 1/2 or 14 3/4	16.7	29.8
14 or 14 1/4	12.1	27.7
Under 14	10.9	9.7
Number of days missed school for reasons other than illness between Sept. and Christmas, 1979		
None	7.5	18.2
1-2	9.2	19.5
3-4	15.8	18.9
5-10	28.5	22.0
11-15	45.1	9.6
16-20	47.2	4.7
21 or more	68.9	7.2

[1] Rates differ from those previously published. See Appendix D.
[2] Proportion of dropouts with nonmissing data for each variable.
Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

While all the variables listed in Table 11 are related to the probability of a student's dropping out, it is important to note that the vast majority of students in every category, except a few rarely occurring characteristics, did not drop out, and that the majority of dropouts did not come from categories with high probabilities of dropping out. For example, only 17 percent of dropouts were D students. Furthermore, nearly half the D students persevered and did not become dropouts. Sixty percent of dropouts reported they received mostly C's or better. The variables in Tables 9, 10, and 11 are predictors of who is likely to drop out, but not very discriminating ones. Most people at great risk of dropping out do not drop out and the majority of dropouts are people who would not have been labeled as being at risk, at least in terms of single characteristics.

For the cohort as a whole, males were about four percent more likely to drop out of high school than females. Within racial/ethnic groups, the differences between males and females were significantly different only for whites (Table 12). While the differences between the sexes were considerable for both blacks and American Indians/Alaskan Natives, the margin of error for these estimates was so large that these differences were not statistically significant.

Table 12. Cohort dropout rate* for 1980 sophomores by race/ethnicity by sex

Race/ethnicity	Total	Sex	
		Male	Female
Total	17.3	19.3	15.2
White	14.8	16.6	13.1
Black	22.2	25.8	18.9
Hispanic	27.9	28.8	27.0
Asian	8.2	9.5	6.8
American Indian/ Alaskan Native	35.5	27.0	47.0

* Rates differ from those previously published. See Appendix D.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Is race still correlated with cohort dropout rates when other background characteristics are taken into account? Many of the variables in Tables 9, 10, and 11 are highly related to one another. While these variables are correlated with the likelihood of dropping out when taken one at a time, do they remain so when other factors are taken into account? In general, the answer is yes.

A great many variables falling into four broad categories -- personal and family background characteristics of students, locational and economic factors, educational and school factors, and student behaviors and choices -- were included in a multivariate analysis of dropout rates for the public school portion of the HS&B sophomore cohort based on the first two follow-ups and transcript data.[14] (Of the variables in Tables 9, 10, and 11, only two -- home language background and absences in fall, 1979 were not included in that analysis.)

Most variables in Tables 9, 10, and 11 remained significantly related to dropout rates (and in the same direction) when all other variables were taken into account. A major exception was differences among racial/ethnic groups when family background (parents' occupation and education, family income, family structure, number of siblings, mother working, religious affiliation, and religiosity) was taken into account.

Blacks had lower rates of dropping out than whites when all these factors were taken into account, and the differences between whites and Hispanics were greatly reduced. This suggests that when blacks are compared to whites with similar family backgrounds, the dropout rates among blacks may be lower than those for whites.

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[14] Barro and Kolstad, op. cit.

RETURNING TO SCHOOL

A student who drops out of high school at some point prior to graduation may later complete high school. In fact, many dropouts do later complete high school, either by earning a regular high school diploma or an alternative equivalency credential such as a GED certificate. Figure 7 illustrates the alternative routes a student may ultimately follow through high school. Dropouts can be subdivided into several categories, depending on their educational career after dropping out of high school. "Stayouts" never return to any educational setting, which would lead to a high school diploma or any equivalency credential. Among the "returnees" are the "completers," who have earned some sort of credential or diploma, and the "dropins" who have not. "Dropins" consist of former students who have returned and then left again before completing.[15]

Frequency of later completion. HS&B is an excellent data source for examining the phenomenon of dropouts returning to school, because of its longitudinal design. As of the third follow-up (spring 1986), not quite four years after their expected graduation date, a large proportion of the dropouts in the 1980 sophomore cohort had completed high school (Table 13). About 46 percent -- eight percent out of the 17.3 percent of dropouts -- had earned a diploma or an equivalency certificate and another 12 percent of the dropouts (two percent of the cohort) were pursuing that goal at the time of the third follow-up.[16]

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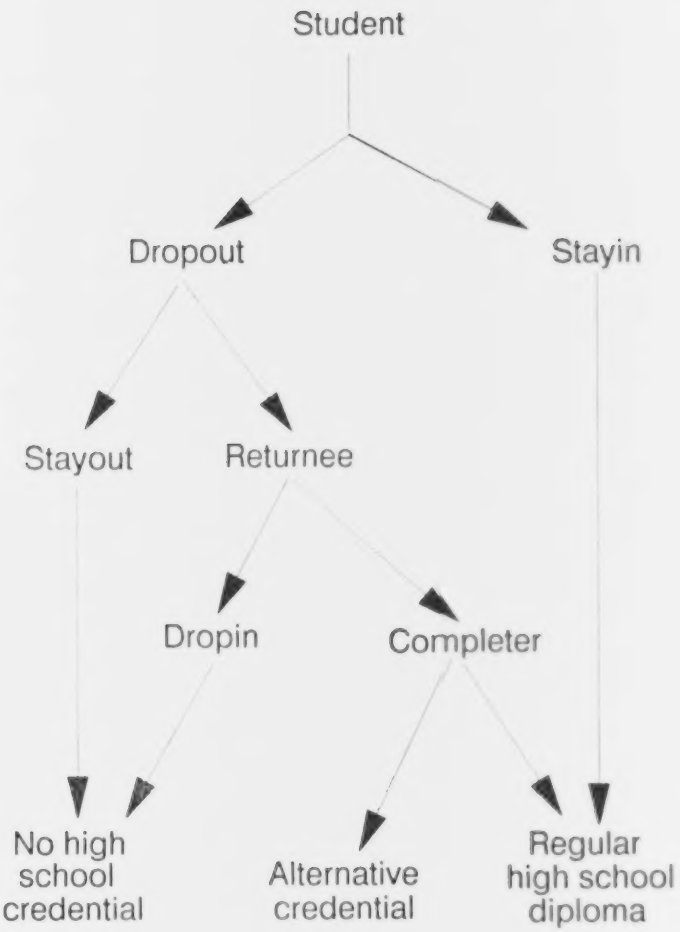
[15] Figure 7 depicts a student's final status with regard to high school completion. At any specific point in time, an individual may still be in progress. Therefore, a person's status may change over time, for example, going from a stayout to a returnee to a returnee-completer. There is an intermediate stage for returnees, which is not reflected in the figure, those currently enrolled but not yet completed. The ultimate completion or noncompletion status for such individuals is not yet known.

[16] While the CPS data show some evidence of the returnee phenomenon (see Table B3), the cross-sectional nature of the data mean that it is not possible to calculate a completion rate for dropouts based on CPS data.

Figure 7. Alternative educational paths through high school



Source: U.S. Department of Education, National Center for Education Statistics, The Condition of Education, 1986 edition.

Table 13. Completion status of 1980 sophomores: 1982, 1984, and 1986

Month and year	Stayins	Dropouts		
		Returned and completed	Currently in progress	Not completed and not in progress
	Percent			
June 1982	82.7	--	17.3	
June 1984	82.7	5.2	2.3	9.8
Third follow-up, 1986	82.7	8.0	2.1	7.1

-- Not applicable.
Note: Rows may not sum to 100 percent due to rounding.
Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

About one-third of the returnee-completers had earned a high school diploma. The other two-thirds had earned some type of equivalency certificate. How soon a dropout completed high school was related to the manner of completion, i.e., diploma or equivalency certificate (Table 14). For those finishing within one year of their expected graduation date, about 45 percent earned high school diplomas. For those delaying longer, the proportion fell to about 25 percent.

The current evidence is unclear about what difference, if any, it makes which route a person follows to complete high school -- earning a regular diploma or obtaining a GED. Some research suggests that GED recipients do not do as well in college as those with high school diplomas.[17] The military services have found that those with an alternative credential are less likely to complete their tour of duty than those with a diploma.[18] On the other hand, findings from HS&B suggest that there are relatively few, if any, differences in

[17] A. Tugend, "College Study: G.E.D. Students Failing," Education Week, May 7, 1986, pp. 1, 10.

[18] J. Laurence, "Military Enlistment Policy and Education Credentials: Evaluation and Improvement," Final Report 87-33, HumRRO FR-PRD-87-33, Alexandria, VA: Human Resource Research Organization, 1987.

employment and earnings patterns between dropouts who completed by the two routes.[19] Literacy skills of GED recipients were generally between those of dropouts who had not completed and regular high school graduates.[20]

Table 14. Proportion of 1980 sophomores completing high school after normal time for their class by method of completion and year

Completion status and year	Method of completing	
	Regular diploma	Equivalency certificate
	Percent	
Completing:		
Total by 1986	31.2	68.8
July 1982 - June 1983	45.7	54.3
July 1983 - June 1984	26.1	73.9
July 1984 - Third follow-up, 1986	23.3	76.7
Working toward completion:		
At the time of third follow-up, 1986	21.5	78.5

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Who returns and completes? Many of the same variables associated with variations in dropout rates were also predictors of the likelihood of whether a dropout would complete high school by the time of the third follow-up. In general, characteristics associated with lower dropout rates were also associated with higher completion rates for dropouts (Tables 15 and 16). This was true for race/ethnicity, SES, metropolitan status, school program type, grades, repeating a grade, and age at the beginning of ninth grade. However, in many

[19] Kopka, op. cit.

[20] A. Pendleton, Young Adult Literacy and Schooling, CS 88-604, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, October, 1988.

instances the absolute differences in the proportion not completing high school between categories narrowed between 1982 and 1986.

SES is a good example of this pattern (Table 15). About two-fifths of the dropouts from the lowest SES quartile had completed high school by 1986, whereas two-thirds of those from the highest SES quartile had done so. However, since the dropout rate was so much greater for the lowest SES quartile, the percent of the 1980 sophomore cohort who were returnee-completers was greater for the lowest quartile, about nine percent, than for the highest quartile, where four percent were returnee-completers. As a result, the absolute difference of about 15.5 percent between the two quartiles in dropout rates in 1982 had become a 10.5 percent difference in the proportion not completing by 1986.

Rates of returning and completing varied considerably among racial/ethnic groups (Table 15). Asian dropouts were more likely to return and complete high school than anyone else and Hispanics and American Indians/Alaskan natives were the least likely to complete. About three-quarters of the Asian dropouts had finished by 1986. On the other hand, about one-third of Hispanic and one-fourth of American Indian/Alaskan Native dropouts had done so. Black and white dropouts did not differ in their completion rates; it was almost 50 percent for both groups.

Some characteristics of the base year schools or school experiences were related to the likelihood that a dropout would complete by the third follow-up (Table 16). Without further analysis, it is unclear whether these relationships are due to the impact of these school-related variables themselves or due to relationships of both the school variables and the likelihood of completing with other variables, such as family and individual background characteristics. Dropouts who identified themselves as being in an academic program in the base year were more likely to complete than those in general or vocational/technical programs. Dropouts whose previous school experiences were more positive were more likely to return. Those with grades of B or better completed at higher rates than those with Cs and Ds or worse. Students who had never repeated a grade and were younger when entering 9th grade completed at higher rates than those who had repeated at least one grade or had been among the oldest students entering 9th grade.

Table 15. Change in dropout status of 1980 sophomores between 1982 and 1986 by socio-demographic and geographic characteristics

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	17.3	9.2	8.0	46.5
Sex				
Male	19.3	10.1	9.2	47.5
Female	15.2	8.4	6.9	45.2
Race/ethnicity				
White	14.8	7.6	7.2	48.4
Black	22.2	11.4	10.8	48.5
Hispanic	27.9	18.0	9.9	35.5
Asian	8.2	2.0	6.2	75.8
American Indian/ Alaskan Native	35.5	27.1	8.4	23.7
Home language background				
NonEnglish only	20.1	10.0	10.0	50.0
NonEnglish predominant	20.8	11.5	9.3	44.8
English predominant	12.7	6.0	6.7	52.6
English only	14.5	7.4	7.1	48.7
Socioeconomic status				
Highest quartile	6.6	2.4	4.2	64.2
Second quartile	10.2	4.0	6.2	60.8
Third quartile	14.3	7.3	6.9	48.6
Lowest quartile	22.1	13.0	9.2	41.5
Unknown	78.0	48.7	29.3	37.5
Region				
Northeast	13.7	6.2	7.5	55.0
Midwest	14.8	8.8	6.0	40.8
South	19.5	10.4	9.1	46.6
West	21.7	11.7	9.9	45.8
Metropolitan status				
Urban	24.5	13.6	10.9	44.5
Suburban	15.1	7.1	8.0	53.0
Rural	15.6	9.5	6.1	39.0

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table 16. Change in dropout status of 1980 sophomores between 198[illegible] and 1986 by 1980 school experience

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	17.3	9.2	8.0	46.5
School type				
Public	18.3	9.9	8.4	45.7
Catholic	4.9	1.6	3.3	67.3
Other private	10.9	3.6	7.3	--
School program				
Academic	5.8	1.9	3.9	48.0
Vocational	20.4	11.6	8.8	66.9
General	17.5	9.1	8.4	43.0
Grades				
Mostly A's	1.5	1.4	1.0	62.9
A's and B's	5.0	1.5	3.5	71.1
Mostly B's	6.6	2.6	4.0	60.8
B's and C's	13.6	6.3	7.3	53.4
Mostly C's	20.8	10.6	10.2	49.1
C's and D's	34.6	20.1	14.5	41.8
Mostly D's or less	56.5	35.2	21.3	37.7
Held back or repeated a grade				
Yes	31.2	20.2	11.0	35.2
No	14.1	7.0	7.0	50.0
Age at beginning of 9th grade				
15 1/2 or older	52.1	33.9	18.3	35.1
15 or 15 1/4	31.0	18.9	12.1	39.0
14 1/2 or 14 3/4	16.7	9.0	7.7	46.4
14 or 14 1/4	12.1	5.4	6.7	55.4
Under 14	10.9	4.9	6.0	54.8
Number of days missed school for reasons other than illness between Sept. and Christmas, 1979				
None	7.5	3.2	4.3	57.6
1-2	9.2	4.6	4.6	50.4
3-4	15.8	8.2	7.5	47.8
5-10	28.5	15.0	13.5	47.3
11-15	45.1	23.6	21.5	47.7
16-20	47.2	28.6	18.6	39.4
21 or more	68.7	42.9	26.0	37.7

-- Fewer than 30 cases.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

When dropping out occurs. The grade in which a student drops out is also related to how and if s/he completes high school within the first few years after scheduled high school graduation. An analysis of HS&B third follow-up data by Kolstad and Kaufman found that those dropping out in tenth grade were least likely to have completed high school by 1986 and those dropping out in twelfth grade were most likely to have done so.[21] They also found that among the dropouts who later completed high school, the earlier the dropout had left high school, the longer s/he tended to take to complete. Finally, the earlier a dropout left high school, the more likely s/he was to complete high school by means of an equivalency certificate such as a GED rather than by earning a regular high school diploma.

These findings suggest that the 46 percent rate found for dropouts in the sophomore cohort is probably an optimistic estimate of the proportion of dropouts who complete high school within a few years of their class' graduation. Since those who left in tenth grade were less likely to complete than later leavers, it seems likely that those who drop out prior to spring of tenth grade complete at lower rates.

Differentiating among groups of dropouts. The most extensive analysis of dropouts returning to school has been conducted by Phillip Kaufman, also using data from HS&B (second follow-up).[22] Kaufman's intent was to identify factors that would differentiate among three groups of dropouts -- returnee-completers, dropouts enrolled at the time of the second follow-up, and dropouts not in school at the time of the second follow-up.[23]

On a wide variety of characteristics, Kaufman found the three groups could be rank ordered -- returnee-completers, those enrolled, and those not enrolled. Many of the characteristics that distinguished the three dropout groups from one another were the same variables that differentiate dropouts from nondropouts. Thus, dropouts do not appear to be an undifferentiated group, but may form a continuum; those most likely to return and complete high school, shortly after dropping out, most resembled nondropouts. Similarly, the group making the least progress toward completing high school least resembled stayins in their characteristics.

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[21] A. Kolstad and P. Kaufman, "Dropouts who Complete High School with a Diploma or GED," paper prepared for presentation at the annual meetings of the American Education Research Association, March 1989.

[22] P. Kaufman, High School Dropouts Who Return to School, Ph.D. dissertation, Claremont Graduate School, 1988.

[23] While Kaufman's categories of dropout/completion status are the same as those used in this report, individuals were classified on the basis of the data available at the time he conducted his analysis, i.e., second follow-up data.

Kaufman used a multivariate model with many classes of variables to try to differentiate the three groups of dropouts (Figure 8). All together, the variables in his model could explain approximately 30 percent of the variation in school completion outcomes among the three dropout groups.[24] Figure 9 portrays how much of the variation was explained sequentially by each group of variables. The first two groups of variables, family and individual background, explained about six and seven percent of the variation respectively. The other large contributor was post-dropout attitudes, which explained almost eight percent of the variation.

Four variables -- SES, student ability, and educational expectations in 1980 and in 1982 -- accounted for about sixty percent of the model's ability to differentiate the three dropout groups. Dropouts from higher SES families, of higher ability (as measured by the tests administered as part of HS&B), and with higher expectations as to how much education they would complete (both before and after dropping out) were more likely to return. Once SES and family composition were taken into account, whites and Hispanics did not differ in their return rates, but blacks continued to return at lower rates than whites. Having children appeared to lessen the likelihood that a dropout would return to school, a factor which affected more women than men, since more female dropouts had children.

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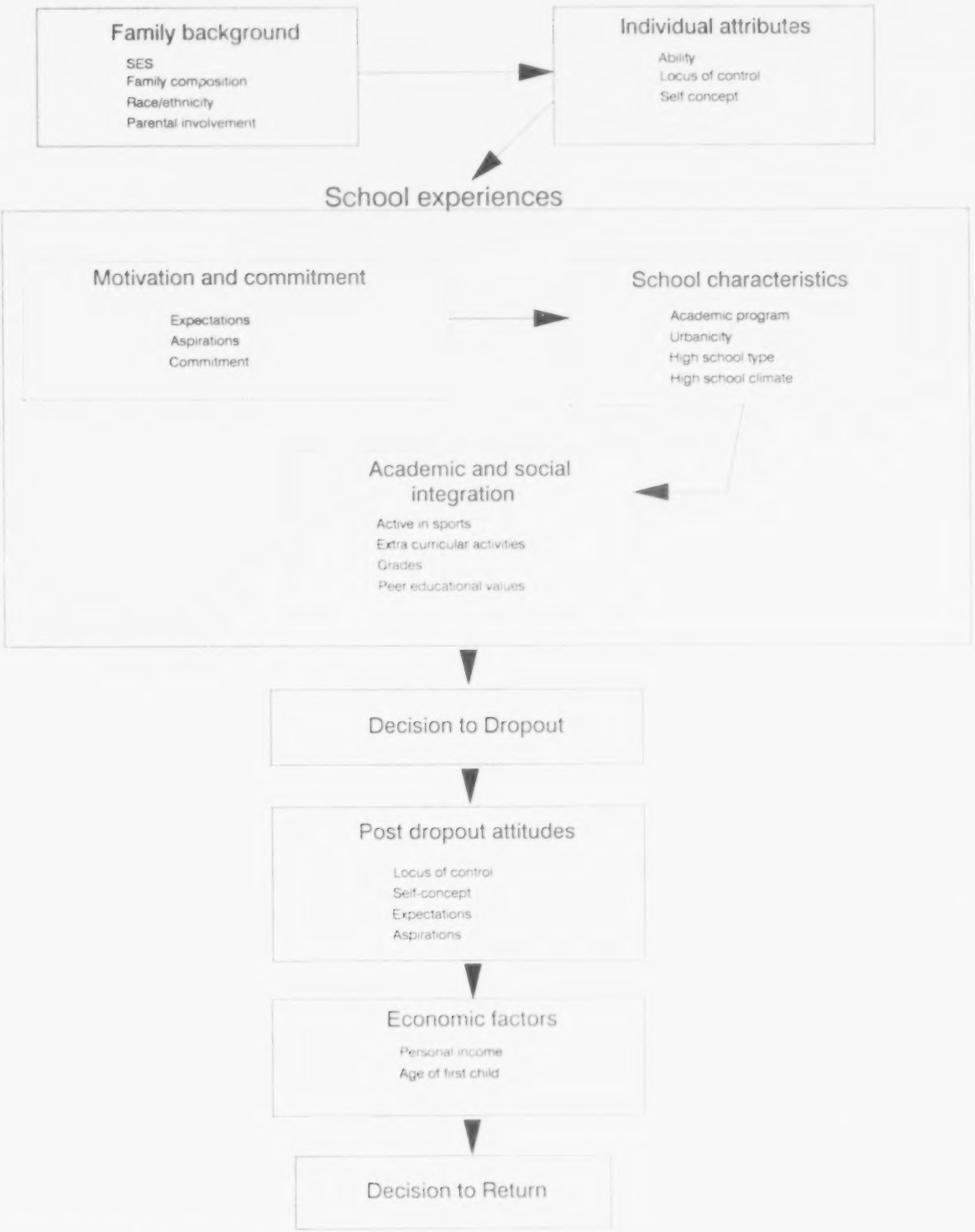
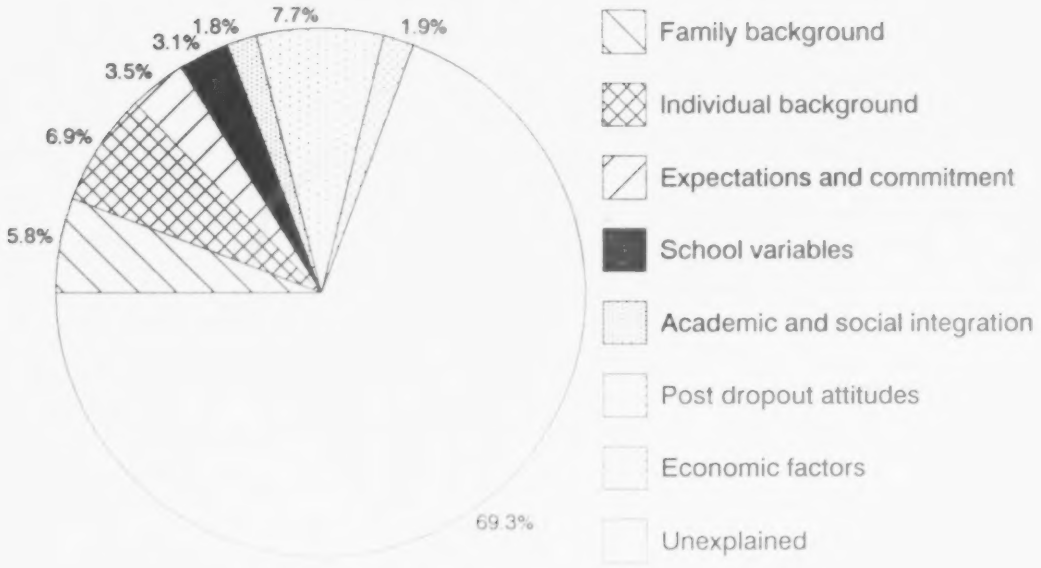
[24] Kaufman incorporated about 25 variables in his analysis and identified a number of factors which discriminated among the three dropout groups. On the other hand, these factors could only explain 30 percent of the variation among the groups and there was a lot of overlap in the characteristics of the three groups. This pattern is similar to the one found in the last chapter when trying to identify factors differentiating dropouts from nondropouts -- factors correlated with dropout behavior do not discriminate very well between the various categories of completion status.

Figure 8. Model of high school completion



Source: P. Kaufman, High School Dropouts Who Return to School, Ph.D. dissertation, Claremont Graduate School, 1988.

Figure 9. Relative importance of factors in separating dropout groups as a proportion of total variation in completion status



Source: P. Kaufman, High School Dropouts Who Return to School, Ph.D. dissertation, Claremont Graduate School, 1988.

SUMMARY AND CONCLUSION

This report attempts to answer two questions about dropouts in the United States. What is the extent of the dropout problem at the current time? and Who drops out before graduating from high school? In order to answer these questions, three types of dropout rates have been presented in this report -- event, status, and cohort rates. In addition, the extent to which dropouts return to school has also been examined. What do the data show?

Extent of the Problem

Rates. Three types of dropout rates were examined in this report.

1) The event dropout rate represents the share of students that leave school without completing high school during a single year. Over the past three years for which data are available (October 1985 through October 1988), the average event dropout rate has been 4.4 percent for students in grades 10-12. The number of event dropouts from grades 10-12 in the year between October 1987 and October 1988 was approximately 460,000.

2) The status dropout rate represents the proportion of individuals at any given point in time who are not enrolled in school and have not finished high school. In October 1988, 12.9 percent of 16- to 24-year-olds were status dropouts. About half of these 4.2 million dropouts had completed 10 or 11 years of schooling. Another third had completed eighth or ninth grade.

The status dropout rate is much higher than the event rate because it counts as dropouts all individuals who have not finished high school (and are not currently enrolled in school) regardless of when they last attended school. A person is counted as an event dropout only in the year s/he leaves school. Thus the status rate reflects the cumulative impact of dropout events from all grades over a number of years, net the effect of individuals returning to school.

3) Another way of examining the extent of the dropout problem is to look at what happens to a single group, or cohort, of students as they pass through school. Among the cohort of students who were sophomores in the spring of 1980, 17.3 percent had not graduated by June, 1982. However, by spring of 1986, 46 percent of these dropouts had obtained either a diploma or an equivalency credential. About one-third had earned a regular high school diploma, while the other two-thirds received a GED or other alternative credential.

Trend. Nationally, dropout rates have been declining: since the late 1960s for status rates and since the late 1970s for event rates. While there was a slight increase between 1986 and 1988, the status rate in 1988 was 20 percent lower than it had been twenty years ago -- 16.2 percent in 1968 and 12.9 percent in 1988. The event rate fell 28 percent between 1978 and 1987.

For both status and event dropout rates, the rates for blacks have declined considerably and the differences between dropout rates for whites and blacks have narrowed over the past two decades. Data on Hispanics are available beginning in 1972. Hispanic dropout rates -- event and status -- have shown no consistent trend since then, remaining high throughout the period.

Who Drops Out and Returns

Dropping out. A number of demographic, socioeconomic, and behavioral characteristics are associated with dropping out.

o Background demographic characteristics

The general patterns for common background variables measured for all three types of rates showed consistent patterns across the three rates. In each case, dropout rates for whites were lower than those for blacks, which in turn were lower than those for Hispanics. Nevertheless, because there are so many more whites than blacks or Hispanics in the population, the majority of dropouts were white. Dropout rates were consistently higher in cities than in suburbs and nonmetropolitan areas and lower in the Northeast than in the South and West. In recent years, there was a tendency for dropout rates to be higher for men than for women, but that pattern did not appear for every year or every racial/ethnic group.

o Other background, socioeconomic and behavioral factors

More data on these factors were available for examining the cohort rates. Asian students had the lowest dropout rate of any racial/ethnic group, while American Indian/Alaskan Natives had a very high rate. Students coming from less advantaged family backgrounds -- low SES, single-parent, nonEnglish language background -- had higher dropout rates than their more advantaged peers. Dropout rates for blacks were the same or lower than those for whites, when individual and family background characteristics were taken into account. A student's own family formation pattern was also related to dropping out. Those who had children or had married prior to the time they would normally graduate had very high dropout rates.

A student's previous success in school was correlated with the likelihood of dropping out. Those with low grades, who had repeated a grade, and who were overage for their grade were more likely to become dropouts than their more successful peers. Similarly, students who had been in trouble with the law or with school authorities were more likely to drop out. In addition, a student's attendance pattern during the first four months of tenth grade was associated with dropping out. Those who had missed many days of school for reasons other than illness were more likely to drop out than those who had missed few, if any, days.

A variety of factors and characteristics were associated with a greater likelihood of dropping out, and might be considered as putting a student "at-risk" of dropping out. However, most students with such "at-risk" characteristics did not drop out. Because of that and the fact that the "at-risk" categories accounted for relatively small proportions of the population, most dropouts were not "at-risk" individuals. For example, the majority of dropouts from the 1980 sophomore cohort came from two-parent families, had C averages or better, and were unmarried without any children in the spring of 1982.

Dropouts completing high school. Many of the same characteristics associated with the likelihood of dropping out were also correlated with completion rates in the first few years after dropping out. For example, Asian dropouts were more likely to earn a high school diploma or obtain an equivalency certificate (such as a GED) than any other racial/ethnic group, while American Indian/Alaskan Native dropouts were the least likely to complete. (White and black dropouts did not differ in their completion rates.) Dropouts with higher grades in high school and from high SES backgrounds tended to complete more than those with lower grades and from low SES family backgrounds.

Dropouts are not a homogeneous group in terms of their characteristics or their behavior. In many respects, dropouts who completed high school, either by earning a GED or a diploma, tended to resemble their peers who never left high school more than dropouts who had not completed high school by 1986.

How early a student in the 1980 sophomore cohort left high school was associated with return behavior in several ways. The lower the grade from which a student dropped out of high school, the less likely s/he was to have completed by spring, 1986. If a dropout had completed by 1986, when a student left was also related to the method of completion and the length of time needed to complete. The lower the grade when dropping out, the longer it took the former student to finish and the more likely s/he obtained a GED rather than a regular diploma.

Conclusion

In terms of the number of young people involved, the data reveal that the dropout problem is substantial. On the other hand, dropout rates have been falling for the past ten years. Furthermore, many dropouts complete high school in some manner within a few years after dropping out. However, two-thirds of these returnee-completers do so by obtaining an equivalency credential. At this point it is not clear whether the way a person completes high school -- regular diploma or GED -- makes a difference in terms of skills attained, further education pursued, or success in the labor market.

Dropout rates for some groups and in some locations are higher than in others. Generally, dropout rates are higher for minority groups, in cities, and in the South and West. In particular, dropout rates for young Hispanics are very high and have not declined in recent years, while overall rates and those for blacks have been declining. In addition, Hispanic dropouts tend to complete fewer years of schooling than other dropouts. Nationally, Hispanics accounted for about one-quarter of the status dropouts in 1988, and were a majority of such dropouts in the West.

APPENDICES

APPENDIX A

TIME SERIES AND STANDARD ERROR TABLES

Table A1. Average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity: 1968 to 1987 (Figure 1)

Year[1]	Race/ethnicity			
	Total	White	Black	Hispanic[2]
	Percent			
1968	5.3	--	--	--
1969	5.4	--	--	--
1970	5.5	--	--	--
1971	5.8	--	--	--
1972	6.0	--	--	--
1973	6.4	--	--	10.2
1974	6.3	5.7	10.1	10.2
1975	6.1	5.7	9.2	9.2
1976	6.1	5.8	8.1	8.7
1977	6.3	6.0	8.7	9.1
1978	6.6	6.2	9.5	10.4
1979	6.5	6.0	9.4	11.5
1980	6.2	5.7	9.2	11.1
1981	5.8	5.3	8.6	10.5
1982	5.5	5.0	8.1	10.0
1983	5.2	5.0	6.8	10.1
1984	5.1	4.9	6.8	10.2
1985	5.0	4.8	6.3	10.9
1986[3]	4.8	4.5	6.8	9.2
1987[3]	4.8	4.6	6.7	9.5

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

[3] Rates for these years have been adjusted to take into account changes in CPS data editing procedures. The adjustments were made in order to facilitate comparisons with the rates for earlier years. Rates for 1987 differ from those shown in Tables 1 and 2 in the text. (See Appendix D for a discussion of the adjustment procedure.)

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A2. Event dropout rate (single year) from grades 10-12, ages 14-24, and standard errors: 1967 to 1988 (Figure 1)

Year ending	Single-year rate	Standard error
	Percent	
1967	5.2	.3
1968	5.2	.3
1969	5.4	.3
1970	5.7	.3
1971	5.4	.3
1972	6.2	.4
1973	6.3	.3
1974	6.7	.3
1975	5.8	.3
1976	5.9	.3
1977	6.5	.3
1978	6.7	.3
1979	6.7	.3
1980	6.0	.3
1981	5.9	.3
1982	5.4	.3
1983	5.2	.3
1984	5.1	.3
1985	5.2	.3
1986[2]	4.7	.3
1987[2]	4.5	.3
1988[2]	5.3	.3

[1] Hispanics may be of any race.
[2] Rates for these years have been adjusted to take into account changes in CPS data editing procedures. The adjustments were made in order to facilitate comparisons with the rates for earlier years. The rates are slightly higher than those shown in Table 1 in the text. (See Appendix D for a discussion of the adjustment procedure.)

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A3. Average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity and sex: 1968 to 1987 (Figure 2)

Year[1]	Race/ethnicity and sex						
	Total		White		Black		Hispanic[2]
	Male	Female	Male	Female	Male	Female	(Total)
	Percent						
1968	--	--	4.6	4.7	10.0	9.5	--
1969	--	--	4.6	5.0	11.0	9.5	--
1970	--	--	4.9	5.1	10.8	8.2	--
1971	--	--	5.1	5.4	10.7	8.5	--
1972	--	--	5.6	5.4	10.7	8.5	--
1973	--	--	6.2	5.5	10.9	10.0	10.2
1974	6.6	6.0	6.0	5.4	10.3	9.9	10.2
1975	6.4	5.8	6.1	5.3	9.2	9.2	9.2
1976	6.3	5.8	6.0	5.5	8.2	8.1	8.7
1977	7.0	5.7	6.7	5.3	9.0	8.4	9.1
1978	7.0	6.2	6.8	5.6	8.7	10.1	10.4
1979	6.9	6.0	6.6	5.4	8.9	9.9	11.5
1980	6.5	6.0	6.2	5.3	8.3	10.0	11.1
1981	6.1	5.4	5.8	4.9	8.8	8.4	10.5
1982	5.8	5.2	5.4	4.7	8.5	7.9	10.0
1983	5.6	4.8	5.3	4.6	7.5	6.2	10.1
1984	5.5	4.8	5.2	4.5	7.1	6.4	10.2
1985	5.5	4.8	5.0	4.6	6.5	6.0	10.9
1986[3]	4.9	4.7	4.7	4.3	6.6	7.0	9.2
1987[3]	5.0	4.6	4.9	4.3	6.2	7.0	9.5

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

[3] Rates for these years have been adjusted to take into account changes in CPS data editing procedures. The adjustments were made in order to facilitate comparisons with the rates for earlier years. The rates for males, females, and Hispanics in 1987 differ from those shown in Table 2 in the text. (See Appendix D for a discussion of the adjustment procedure.)

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A4. Status dropout rate, ages 16-24, by sex and race/ethnicity: October, 1968 to 1988 (Figure 3)

Year	Total	Sex		Race/ethnicity		
		Male	Female	White	Black	Hispanic[1]
	Percent					
1968	16.16	15.84	16.45	14.69	27.37	--
1969	15.19	14.26	15.99	13.64	26.74	--
1970	14.96	14.18	15.65	13.17	27.86	--
1971	14.71	14.18	15.20	13.41	23.72	--
1972	14.61	14.09	15.09	13.65	21.45	34.33
1973	14.11	13.67	14.53	12.91	22.29	33.68
1974	14.27	14.19	14.35	13.24	21.28	33.03
1975	13.90	13.28	14.50	12.58	22.83	29.15
1976	14.14	14.14	14.15	13.26	20.41	31.31
1977	14.11	14.45	13.78	13.35	19.72	32.91
1978	14.23	14.63	13.85	13.39	20.22	33.13
1979	14.57	14.96	14.18	13.55	21.17	33.76
1980	14.07	15.08	13.09	13.26	19.34	35.17
1981	13.92	15.12	12.76	13.81	18.51	33.12
1982	13.87	14.50	13.26	13.12	18.40	31.68
1983	13.67	14.85	12.51	12.88	18.09	31.54
1984	13.14	14.02	12.28	12.65	15.56	29.80
1985	12.58	13.40	11.78	12.16	15.69	27.55
1986	12.21	13.07	11.37	11.99	14.11	30.10
1986[2,3]	12.09	12.93	11.27	11.92	13.68	30.04
1987[3]	12.71	13.25	12.18	12.48	14.52	28.56
1988[3]	12.86	13.52	12.23	12.65	14.85	35.75

-- Not available.
[1] Hispanics may be of any race.
[2] Data revised from those previously published.
[3] Rates for these years reflect revised CPS data editing procedures.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A5. Number of status dropouts, ages 16-24, by race/ethnicity: October, 1968 to 1988 (Figure 4)

Year	Race/ethnicity			
	Total	White	Black	Hispanic[1]
	(In thousands)			
1968	4,498	3,560	910	--
1969	4,380	3,419	927	--
1970	4,525	3,457	1,022	--
1971	4,640	3,662	918	--
1972	4,769	3,838	873	609
1973	4,718	3,713	940	579
1974	4,848	3,866	895	654
1975	4,824	3,743	993	572
1976	4,982	3,995	912	645
1977	5,031	4,067	897	699
1978	5,113	4,101	934	723
1979	5,263	4,166	988	757
1980	5,085	4,067	911	886
1981	5,143	4,297	913	889
1982	5,056	4,001	917	823
1983	4,904	3,852	895	816
1984	4,626	3,700	766	762
1985	4,324	3,474	725	796
1986	4,144	3,368	671	965
1986[2,3]	4,101	3,348	650	963
1987[3]	4,251	3,443	687	924
1988[3]	4,231	3,423	698	1,169

-- Not available.
[1] Hispanics may be of any race.
[2] Data revised from those previously published.
[3] Numbers for these years reflect revised CPS data editing procedures.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A6. Status dropout rate, ages 16-24, by race/ethnicity by sex: October, 1968 to 1988 (Figure 5)

Year	Race/ethnicity and sex					
	White		Black		Hispanic[1]	
	Male	Female	Male	Female	Male	Female
	Percent					
1968	14.37	14.97	27.07	27.62	--	--
1969	12.58	14.56	26.90	26.69	--	--
1970	12.15	14.09	29.36	26.55	--	--
1971	12.61	14.15	25.54	22.13	--	--
1972	13.06	14.20	22.25	20.76	33.57	34.99
1973	12.53	13.27	21.60	22.90	30.70	36.42
1974	13.40	13.09	20.14	22.26	33.78	32.31
1975	11.98	13.16	22.83	22.83	26.60	31.51
1976	13.22	13.29	21.20	19.73	30.16	32.29
1977	13.89	12.82	19.45	19.95	31.53	34.18
1978	13.64	13.15	22.52	18.24	33.24	33.04
1979	13.97	13.14	22.52	20.00	33.03	34.46
1980	14.22	12.32	21.06	17.86	37.23	33.18
1981	14.49	13.15	19.97	17.22	35.93	30.35
1982	13.55	12.70	21.10	16.01	30.56	32.73
1983	14.05	11.73	19.82	16.54	34.25	29.05
1984	13.53	11.78	16.71	14.51	30.61	29.05
1985	13.01	11.32	16.06	15.34	29.80	25.21
1986	12.92	11.09	14.86	13.44	32.81	27.16
1986[2,3]	12.81	11.05	14.43	13.02	32.67	27.18
1987[3]	12.98	11.99	15.65	13.50	28.97	28.12
1988[3]	13.45	11.88	15.36	14.40	36.03	35.46

-- Not available.
[1] Hispanics may be of any race.
[2] Data revised from those previously published.
[3] Rates for these years reflect CPS revised data editing procedures.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A7. Standard errors and N's used to calculate standard errors for average event dropout rate and distribution of dropouts (three-year averages) from grades 10-12, ages 14-24, by sex, race/ethnicity, age, region, and metropolitan status: 1986-88 (Table 2)

	Event dropout rate		Percent of all dropouts	
	Standard error[1] (percent)	N[2] (in thousands)	Standard error[1] (percent)	N[2] (in thousands)
Total	.18	29,220	---	1,285
Sex				
Male	.26	14,791	2.1	684
Female	.25	14,424	2.1	601
Race/ethnicity				
White	.20	23,717	.9	995
Black	.57	4,380	1.7	254
Hispanic[3]	.97	2,261	1.6	209
Age				
14-15	.68	1,025	.5	21
16-17	.19	17,323	2.1	479
18-19	.36	10,121	2.1	612
20-24	.32	753	1.5	176
Region				
Northeast	.34	5,980	1.5	189
Midwest	.35	7,547	1.8	316
South	.34	9,848	2.1	496
West	.43	5,845	1.8	284
Metropolitan status				
Central city	.39	7,812	2.1	486
Suburban	.24	13,715	2.1	520
Nonmetropolitan	.37	6,406	1.8	280

[1] Standard errors for the three-year averages.
[2] Three-year totals of those eligible to drop out and of dropouts used to calculate the standard errors for the three-year averages. The three-year average dropout rates are the average of the rates for the three separate years. They differ from the figure that would result from dividing the three-year total of dropouts by the three-year total of those eligible to drop out.
[3] Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Table A8. Standard errors for status dropout rate and number of status dropouts, ages 16-24, by sex, race/ethnicity, age, region, and metropolitan status: October 1988 (Table 5)

	Status dropout rate (percent)	Number of status dropouts (in thousands)
Total	.28	92
Sex		
Male	.41	66
Female	.38	65
Race/ethnicity		
White	.31	83
Black	.84	39
Hispanic'	1.35	44
Age		
16	.58	14
17	.68	25
18	.85	33
19	.93	32
20	.91	32
21	.91	32
22	.94	33
23	.84	32
24	.83	34
Region		
Northeast	.58	38
Midwest	.48	40
South	.51	57
West	.68	46
Metropolitan status		
Central city	.53	58
Suburban	.38	58
Nonmetropolitan	.63	42

' Hispanics may be of any race.

Source: U.S.Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Table A9. Standard errors and sample sizes for cohort dropout rate for 1980 sophomores by socio-demographic and geographic characteristics (Table 9)

Characteristic	Standard error of cohort dropout rate (percent)	Total sample size	Dropout sample size
Total	.6	13,423	2,416
Sex			
Male	.8	6,490	1,264
Female	.7	6,933	1,152
Race/ethnicity			
White	.6	8,492	1,406
Black	1.7	1,959	409
Hispanic	2.1	2,145	466
Asian	1.6	426	31
Am. Indian/Alaskan Native	5.1	307	78
Home language background			
NonEnglish only	2.9	423	99
NonEnglish predominant	2.2	836	169
English predominant	1.3	1,493	206
English only	.5	9,761	1,768
Socioeconomic status			
Highest quartile	.6	3,531	214
Second quartile	.7	3,193	404
Third quartile	.8	3,068	574
Lowest quartile	1.0	3,225	920
Unknown	2.8	406	304
Family structure			
Both parents present	.5	9,820	1,488
One parent present	1.1	2,379	615
Other	3.6	284	114
Region			
Northeast	1.3	3,113	409
Midwest	1.0	3,659	590
South	1.0	4,132	921
West	1.4	2,519	496
Metropolitan status			
Urban	1.6	3,160	728
Suburban	.7	6,769	986
Rural	.9	3,494	702

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A10. Standard errors and sample sizes for cohort dropout rate for 1980 sophomores by family formation in 1982, and antisocial behavior patterns in 1980 (Table 10)

	Standard error of cohort dropout rate (percent)	Total sample size	Dropout sample size
Total	.6	13,423	2,416
Family formation, 1982			
Married, with children	3.9	217	185
Married, no children	4.7	219	170
Unmarried, with children	4.4	294	166
Unmarried, no children	.5	11,894	1,643
Disciplinary problems in school during last year			
Yes	1.3	2,282	804
No	.4	9,557	1,194
Suspended or on probation from school			
Yes	1.6	1,464	581
No	.4	10,359	1,411
Serious trouble with the law			
Yes	2.5	605	253
No	.4	11,252	1,756

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A11. Standard errors and sample sizes for cohort dropout rate for 1980 sophomores by 1980 school experience (Table 11)

	Standard error of cohort dropout rate (percent)	Total sample size	Dropout sample size
Total	.6	13,423	2,416
School type			
Public	.6	10,562	2,294
Catholic	1.3	2,502	93
Other private	2.3	359	29
School program			
Academic	.5	4,572	279
Vocational	1.0	2,345	678
General	.7	5,367	1,190
Grades			
Mostly A's	.4	1,337	33
A's and B's	.7	2,266	140
Mostly B's	.7	2,308	183
B's and C's	.8	3,193	537
Mostly C's	1.2	1,682	461
C's and D's	1.7	1,154	523
Mostly D's or less	2.9	510	332
Held back or repeated a grade			
Yes	1.6	1,945	670
No	.6	10,642	1,539
Age at beginning of 9th grade			
15 1/2 or older	2.8	869	479
15 or 15 1/4	2.1	1,034	379
14 1/2 or 14 3/4	.9	3,942	687
14 or 14 1/4	.7	5,184	629
Under 14	1.2	2,162	201
Number of days missed school for reasons other than illness between Sept. and Christmas, 1979			
None	.6	4,471	355
1-2	.6	3,695	408
3-4	1.0	2,103	465
5-10	1.6	1,385	497
11-15	3.4	405	208
16-20	5.7	184	109
21 or more	4.6	223	162

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A12. Standard errors for change in dropout status of 1980 sophomores between June 1982 and Spring 1986 by socio-demographic and geographic characteristics (Table 15)

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	.6	.4	.4	1.7
Sex				
Male	.8	.6	.6	2.2
Female	.7	.6	.5	2.5
Race/ethnicity				
White	.6	.4	.4	2.0
Black	1.7	1.3	1.2	4.1
Hispanic	2.1	1.9	1.2	4.1
Asian	1.6	.7	1.5	8.0
American Indian/ Alaskan Native	5.1	5.2	2.0	6.0
Home language background				
NonEnglish only	2.9	1.9	2.2	7.2
NonEnglish predominant	2.2	1.7	1.6	5.9
English predominant	1.3	1.0	.9	5.1
English only	.5	.3	.3	1.6
Socioeconomic status				
Highest quartile	.6	.4	.5	4.7
Second quartile	.8	.4	.6	3.2
Third quartile	.8	.6	.6	3.1
Lowest quartile	1.0	.7	.6	2.1
Unknown	2.8	3.8	3.4	4.1
Region				
Northeast	1.3	.8	.9	4.0
Midwest	1.0	.7	.6	3.0
South	1.0	.8	.7	2.7
West	1.4	1.3	1.0	4.0
Metropolitan status				
Urban	1.6	1.2	1.0	3.1
Suburban	.7	.5	.5	2.6
Rural	.9	.8	.5	2.8

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A13. Standard errors for change in dropout status of 1980 sophomores between 1982 and 1986 by school experience (Table 16)

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	.6	.4	.4	1.7
School type				
Public	.6	.5	.4	1.7
Catholic	1.3	.7	1.0	9.9
Other private	2.3	1.2	2.3	--
School program				
Academic	.5	.5	.5	4.4
Vocational/technical	1.0	.8	.7	2.6
General	.7	.5	.5	2.2
Grades				
Mostly A's	.4	.2	.3	11.0
A's and B's	.7	.3	.6	5.1
Mostly B's	.7	.4	.6	5.5
B's and C's	.8	.6	.6	3.1
Mostly C's	1.2	.9	.9	3.4
C's and D's	1.7	1.4	1.2	2.8
Mostly D's or less	2.9	2.6	2.4	3.7
Held back or repeated a grade				
Yes	1.6	1.5	1.0	3.0
No	.6	.4	.4	1.9
Age at beginning of 9th grade				
15 1/2 or older	2.8	2.7	2.1	3.8
15 or 15 1/4	2.1	1.9	1.3	3.9
14 1/2 or 14 3/4	.9	.7	.6	3.1
14 or 14 1/4	.7	.5	.5	3.1
Under 14	1.2	.8	.9	5.7
Days absent, other than illness between Sept. and Christmas, 1979				
None	.6	.3	.4	3.4
1-2	.6	.5	.4	3.4
3-4	1.0	.7	.7	3.1
5-10	1.6	1.2	1.2	3.1
11-15	3.4	2.8	2.8	4.9
16-20	5.5	4.5	3.8	6.5
21 or more	4.6	4.2	4.2	5.2

-- Fewer than 30 cases.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A14. Standard errors for average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity: 1968 to 1987 (Table A1)

Year[1]	Race/ethnicity			
	Total	White	Black	Hispanic[2]
	Percent			
1968	.2	--	--	--
1969	.2	--	--	--
1970	.2	--	--	--
1971	.2	--	--	--
1972	.2	--	--	--
1973	.2	--	--	1.4
1974	.2	.2	.7	1.4
1975	.2	.2	.7	1.3
1976	.2	.2	.7	1.2
1977	.2	.2	.7	1.2
1978	.2	.2	.7	1.3
1979	.2	.2	.7	1.3
1980	.2	.2	.7	1.3
1981	.2	.2	.7	1.2
1982	.2	.2	.7	1.3
1983	.2	.2	.6	1.3
1984	.2	.2	.6	1.3
1985	.2	.2	.6	1.1
1986	.2	.2	.6	1.0
1987	.2	.2	.6	1.0

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A15. Standard errors for average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity and sex: 1968 to 1987 (Table A3)

Year[1]	Race/ethnicity and sex						
	Total		White		Black		Hispanic[2]
	Male	Female	Male	Female	Male	Female	(Total)
	Percent						
1968	--	--	.3	.3	1.1	1.0	--
1969	--	--	.3	.3	1.2	1.0	--
1970	--	--	.3	.3	1.1	1.0	--
1971	--	--	.3	.3	1.1	.9	--
1972	--	--	.3	.3	1.1	.9	--
1973	--	--	.3	.3	1.1	1.0	1.4
1974	.3	.3	.3	.3	1.0	1.0	1.4
1975	.3	.3	.3	.3	1.0	.9	1.3
1976	.3	.3	.3	.3	.9	.9	1.2
1977	.3	.3	.3	.3	.9	.9	1.2
1978	.3	.3	.3	.3	.9	.9	1.3
1979	.3	.3	.3	.3	.9	.9	1.3
1980	.3	.3	.3	.3	.9	.9	1.3
1981	.3	.3	.3	.3	.9	.9	1.2
1982	.3	.3	.3	.3	1.0	.9	1.3
1983	.3	.3	.3	.3	.9	.8	1.3
1984	.3	.3	.3	.3	.9	.8	1.3
1985	.3	.3	.3	.3	.9	.8	1.1
1986	.3	.3	.3	.3	.8	.8	1.0
1987	.3	.3	.3	.3	.8	.8	1.0

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A16. Standard errors for status dropout rate, ages 16-24, by sex and race/ethnicity: October, 1968 to 1988 (Table A4)

Year	Total	Sex		Race/ethnicity		
		Male	Female	White	Black	Hispanic*
			Percent			
1968	.34	.49	.46	.35	1.25	--
1969	.32	.46	.45	.33	1.21	--
1970	.31	.44	.44	.32	1.19	--
1971	.30	.43	.43	.31	1.10	--
1972	.30	.42	.42	.31	1.04	1.82
1973	.29	.41	.41	.30	1.03	1.84
1974	.29	.41	.40	.30	1.02	1.70
1975	.28	.40	.40	.29	1.03	1.65
1976	.28	.40	.39	.30	.97	1.65
1977	.28	.40	.39	.30	.95	1.64
1978	.28	.41	.39	.30	.95	1.62
1979	.28	.41	.39	.30	.96	1.61
1980	.28	.41	.38	.29	.93	1.53
1981	.27	.40	.37	.30	.89	1.46
1982	.28	.40	.38	.29	.88	1.47
1983	.28	.41	.37	.29	.88	1.47
1984	.27	.40	.37	.30	.83	1.46
1985	.27	.40	.37	.29	.86	1.34
1986	.27	.40	.37	.29	.81	1.31
1986	.27	.39	.37	.29	.80	1.31
1987	.28	.40	.38	.30	.83	1.28
1988	.28	.41	.38	.31	.84	1.35

-- Not available.
* Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A17. Standard errors for number of status dropouts, ages 16-24, by race/ethnicity: October, 1968 to 1988 (Table A5)

Year	Race/ethnicity			
	Total	White	Black	Hispanic*
	(In thousands)			
1968	93	84	41	--
1969	93	83	42	--
1970	94	83	44	--
1971	96	86	43	--
1972	97	88	42	32
1973	97	86	44	32
1974	98	88	43	34
1975	98	87	45	32
1976	99	90	43	34
1977	100	90	43	35
1978	101	91	44	35
1979	102	91	45	36
1980	101	90	44	39
1981	101	93	44	39
1982	100	90	44	38
1983	99	88	44	38
1984	96	86	41	37
1985	93	84	40	39
1986	92	83	39	42
1986	91	83	38	42
1987	93	83	39	41
1988	92	83	39	44

-- Not available.
* Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A18. Standard errors for status dropout rate, ages 16-24, by race/ethnicity by sex: October, 1968 to 1988 (Table A6)

Year	Race/ethnicity and sex					
	White		Black		Hispanic*	
	Male	Female	Male	Female	Male	Female
	Percent					
1968	.50	.48	1.83	1.70	--	--
1969	.47	.46	1.79	1.65	--	--
1970	.45	.45	1.78	1.61	--	--
1971	.44	.44	1.65	1.47	--	--
1972	.44	.44	1.54	1.40	2.64	2.50
1973	.42	.43	1.49	1.43	2.59	2.59
1974	.43	.42	1.47	1.41	2.45	2.37
1975	.41	.42	1.51	1.40	2.32	2.34
1976	.42	.42	1.45	1.31	2.41	2.26
1977	.43	.41	1.39	1.30	2.35	2.30
1978	.42	.41	1.46	1.25	2.33	2.26
1979	.43	.41	1.45	1.29	2.30	2.25
1980	.43	.40	1.41	1.23	2.21	2.12
1981	.43	.41	1.34	1.19	2.12	2.02
1982	.42	.41	1.36	1.15	2.09	2.07
1983	.43	.40	1.33	1.17	2.17	2.00
1984	.43	.40	1.24	1.12	2.12	2.01
1985	.43	.40	1.24	1.20	1.92	1.83
1986	.43	.40	1.21	1.10	1.85	1.83
1986	.43	.40	1.20	1.08	1.85	1.83
1987	.44	.42	1.24	1.10	1.78	1.84
1988	.45	.42	1.23	1.14	1.88	1.95

*Hispanics may be of any race.
-- Not available.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

APPENDIX B

COMPLETION/GRADUATION RATES

Another set of rates, frequently used to derive estimates of dropout rates, are measures of a related concept, high school completion or graduation.[25] A completion rate measures the proportion of some population group which has completed high school. However, it is not correct to conclude that (100 - completion rate) is a dropout rate. A noncompleter is not necessarily a dropout. Students who, based on their age or grade in a prior year, might be expected to have completed high school may not yet have completed high school and never have been a dropout. For example, students may take longer than the norm to finish high school because they must repeat courses or grades, because of illness or injury, or because they started school at an older age than other students.

The last three columns in Table B1 present various completion/graduation rates that are frequently cited. All are calculated as graduates as a percentage of some population that is assumed should already have graduated from high school. All yield completion rates between 70 and 77 percent since 1970. In the past, analysts have used these figures to estimate a national dropout rate of 25 percent or higher.

Completion rate. The second column shows the proportion of 18- and 19-year-olds who have completed high school. The fallacy in using this measure to compute an estimated dropout rate is that it does not take into account those still enrolled in elementary/secondary school. This can be seen by looking at the first column in Table B1, which shows what might be called the completion/retention rate for 18- and 19-year-olds, (100 - status dropout rate). This figure varied between 83 and 88 percent from 1970 to 1988. The difference between the first two columns in the table is that the first one includes the proportion of 18- and 19-year-olds still enrolled in school below the college level. During the period covered in the table, that percentage has been between 10 and 14 percent, and has been higher for males than for females and for blacks than for whites. In October 1988, 14 percent of all 18- and 19-year-olds were enrolled below the college level -- 18 percent of males, 9 percent of females, 12 percent of whites and 24 percent of blacks (Tables 6 and B2).

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[25] Pallas, op. cit. and Kominski, op. cit.

Table B1. Alternative measures related to completing high school: 1970 to 1989

Year	Percent of 18-19 year olds completed high school[1] or enrolled below college (October) (1)	Percent of 18-19 year olds completed high school[1] (October) (2)	High school graduates as percent of 17-year-olds[2] (School year ending) (3)	Graduates as percent of 9th graders 4 years before[3] (School year ending) (4)
1970	83.8	73.3	76.9	--
1971	84.7	73.2	75.9	--
1972	85.3	74.9	75.5	--
1973	84.0	74.0	75.0	--
1974	83.4	73.4	74.4	--
1975	84.0	73.7	73.6	--
1976	83.4	73.1	73.7	--
1977	83.4	72.9	73.9	--
1978	83.3	73.5	73.0	--
1979	83.2	72.8	72.0	--
1980	84.3	73.7	71.4	--
1981	84.0	72.5	71.8	--
1982	83.3	72.0	72.7	69.5
1983	85.5	72.7	73.3	--
1984	84.8	73.3	73.7	70.8
1985	85.7	74.6	73.2	71.7
1986	87.9[4,5]	74.6[4,5]	73.0	71.6
1987	86.7[5]	73.6[5]	73.0	71.1
1988	85.4[5]	71.5[5]	73.9[6]	--
1989	--	--	74.0[6]	--

-- Not available.

[1] Includes graduates of public and private high schools and recipients of equivalency credentials.

[2] Includes graduates of regular day school programs in private and public high schools. Does not include recipients of equivalency credentials.

[3] Public schools only; does not include recipients of equivalency credentials. Adjusted for state migration rates and unclassified students.

[4] Data revised from previously published.

[5] Data based on different editing procedures than in earlier years.

[6] Estimated.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations; U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 1989, forthcoming; and U.S. Department of Education, Office of Planning, Budget, and Evaluation, State Education Statistics (Secretary's Wall Chart), various years.

Table B2. High school completion status by race/ethnicity by sex by age: October 1988

Age	Race/ethnicity and sex: Male White	Male Black	Male Hispanic*	Female White	Female Black	Female Hispanic*
			Percent enrolled in high school or below			
18-19	16.4	28.6	24.2	7.1	19.2	8.8
20-21	1.0	.7	2.6	.4	.0	1.2
			Percent completed high school			
18-19	68.1	53.4	40.6	79.9	63.1	63.8
20-21	83.0	77.6	53.9	87.2	84.8	56.1
			Percent high school dropouts			
18-19	15.5	18.0	35.2	13.1	17.7	27.4
20-21	16.1	21.8	43.5	12.5	15.2	42.7

* Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

The impact on completion rates of the substantial proportion of 18- and 19-year-olds still enrolled in 12th grade or less can be seen in Table B3. The completion rate for 20- and 21-year-olds is considerably higher than for 18- and 19-year-olds. By 20 or 21, few people are still enrolled below college (1 percent or less); those who were enrolled at 18 and 19 have either completed or dropped out. In addition, some who were dropouts at 18 or 19 have completed high school by 20 or 21.

Completion rates for 18- and 19-year-olds have not changed since 1970. There were changes in the 1970s for older age groups as better educated age cohorts were replacing older, less well educated ones. Table B3 also shows some evidence of the returnee phenomenon, although the increase in completion rates for an age cohort after 20-21 is small, less than five percent. For example, those 20-24 in 1970 were 25-29 in 1975 and 30-34 in 1980 and the completion rate for this cohort rose from 81.2 percent in 1970 to 85.1 percent in 1980. The 20- to 24-year-old cohort in 1975 was 30- to 34-years old in 1985. The completion rate for this cohort was 83.9 percent in 1975 and 87.1 percent in 1985.

Table B3. Proportion completing high school by age: 1970 to 1988

October	Age				
	18-19	20-21	22-24	25-29	30-34
1970	73.3	81.9	80.7	77.0	73.0
1975	73.7	82.4	85.0	84.2	79.1
1980	73.7	83.0	84.3	85.7	85.1
1985	74.6	84.9	85.5	85.6	87.1
1986[1,2]	74.6	84.1	85.3	85.7	87.2
1987[2]	73.6	84.3	84.4	85.5	86.9
1988[2]	71.5	84.8	85.1	85.9	87.0

[1] Data revised from those previously published.
[2] Rates for these years reflect CPS revised data editing procedures.
Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

"Cohort" completion rates. The third and fourth columns in Table B1 are attempts to construct approximations of a cohort completion rate, using cross-sectional data that are available on an annual basis. They show the number of graduates in a single year as a proportion of a particular cohort -- an age cohort (17-year-olds) in column 3 and a grade cohort (9th graders four years earlier) in column 4.[26] These "cohort" completion rates are much lower than the cohort rate derived from the HS&B longitudinal study -- 82.7 percent, or the completion/retention rates shown in column 1.

Some of the difference may reflect that these are not true cohorts. Individuals represented in the graduate counts may not necessarily be members of the cohort reflected in the denominator. Graduates who are members of the cohort may not be counted in the numerator. The data for the numerator and denominator for these two measures do not come from the same source. The estimates of the number of graduates come from NCES' Common Core of Data (CCD), which is based on reports submitted by the states to NCES, and periodic NCES surveys of private schools. The denominators come from CPS (17-year-olds) and CCD in an earlier year (9th graders four years earlier).

[26] The number of graduates in a single year includes those who graduate on time with their class, late completers who never dropped out, and some who dropped out and later returned.

There are several other factors that may contribute to the differences between the rates shown in columns 3 and 4 and the completion/retention rates for 18- and 19-year-olds shown in column 1 (and the HS&B completion rate). One is differences in data collection methodologies. CPS is a sample survey of households, while CCD is based on aggregate state reports derived from administrative records. There could be an upward bias to the CPS estimates if there is any tendency for respondents to exaggerate the educational accomplishments of household members. In addition, certain populations in which dropout rates are above average, such as young black males, tend to be undercounted in both CPS and the decennial census. Furthermore, those in institutions and the military are excluded from CPS. On the other hand, state reports of the number of graduates may not be comprehensive nor reflect a consistent definition either over time or across states of who is being reported as a graduate. CPS (and HS&B) includes those who have graduated from private schools, where graduation rates are higher than in public schools. The rate in column 5 is only for public school students.

Another factor is the definition of high school completion reflected in the statistics. The CCD counts of graduates do not include those who receive equivalency credentials, whereas those who have received such credentials are considered high school completers in CPS. In 1987, the number of GED credentials issued was approximately 444,000.[27] NCES' estimated there were 2.7 million high school graduates in 1986-87.

Trends over time in completion rates. High school completion rates have increased markedly in the past 120 years (Table B4). In the late 1800s very few people graduated from high school. Graduates as a percentage of 17-year-olds increased every decade from 1869-70 until the 1970s. The increase per decade was small prior to World War I, but was very substantial between 1919-20 and 1939-40. On the other hand, there has been no gain, and some decrease, in the measure in the past 25 years. It did not increase in the mid to late 1960s and declined about five percentage points during the 1970s. Some of the 1970s decline was reversed in the 1980s.

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[27] General Educational Development Testing Service of the American Council on Education, The 1987 GED Statistical Report, Washington, D.C.: 1988.

Table B4. High school graduates compared with population 17 years of age: 1869-70 to 1988-89

School year	Population 17 years old	High school graduates[1]	Graduates as percent of 17-year-olds
	(Numbers in thousands)		
1869-70	815	16	2.0
1879-80	946	24	2.5
1889-90	1,259	44	3.5
1899-1900	1,489	95	6.4
1909-10	1,786	156	8.8
1919-20	1,855	311	16.8
1929-30	2,296	667	29.0
1939-40	2,403	1,221	50.8
1949-50	2,034	1,200	59.0
1959-60	2,672	1,858	69.5
1961-62	2,768	1,918	69.3
1963-64	2,978	2,283	76.7
1965-66	3,489	2,665	76.4
1967-68	3,532	2,695	76.3
1969-70	3,757	2,889	76.9
1971-72	3,973	3,001	75.5
1973-74	4,132	3,073	74.4
1975-76	4,272	3,148	73.7
1977-78	4,286	3,127	73.0
1979-80	4,262	3,043	71.4
1980-81	4,207	3,020	71.8
1981-82	4,121	2,995	72.7
1982-83	3,939	2,888	73.3
1983-84	3,753	2,767	73.7
1984-85	3,658	2,677	73.2
1985-86	3,621	2,642	73.0
1986-87	3,696	2,698	73.0
1987-88[2]	3,779	2,793	73.0
1988-89[2]	3,761	2,781	74.0

[1] Includes graduates of public and private high schools. For most years graduates of private high schools have been estimated. Before 1939-40, excludes graduates of high schools not reporting to the Office of Education. Excludes recipients of equivalency credentials.
[2] Estimated.
Source: U.S. Department of Education, National Center of Education Statistics, Digest of Education Statistics, 1989, forthcoming.

APPENDIX C

DATA SOURCES ON DROPOUTS: CURRENT AND FUTURE

The two primary national data sources on dropouts currently available are the Current Population Survey, conducted by the Bureau of the Census, and High School and Beyond, a longitudinal survey conducted by the National Center for Education Statistics. These were the data sources utilized in this report. However, NCES is presently testing or implementing three additional data collections, which may provide more extensive and reliable data about dropouts and dropout rates in the near future. These are the National Education Longitudinal Survey of 1988 (NELS:88), the National Household Education Survey (NHES), and a dropout component to the existing Common Core of Data (CCD). These new collections and plans for them were described in detail in an earlier report to Congress, Activities to Plan and Implement the Reporting of School Dropout and Retention Indicators: Status Report to the United States Congress on Activities Related to Section 406 (G) of the General Education Provisions Act as Amended by Public Law 100-297, May 1989. Brief descriptions of these current and potential data sources on dropouts are provided below.

Current Data Sources

Current Population Survey. The October Supplement to the Current Population Survey (CPS) is the only current national data source that can be used to estimate an annual national dropout rate (event) or the number of dropouts nationally regardless of when they dropped out (status). CPS is a nationally representative sample survey of all households and the annual October Supplement obtains information about school enrollment and educational attainment for each member of a household. To identify dropout events, it also asks about enrollment one year prior to the interview.

From CPS it is possible to obtain the number and proportion of dropouts, defined either as an event or a status, and some information about the characteristics of dropouts. For calculating an annual dropout rate, dropouts are defined as those not currently enrolled in school, who were enrolled a year ago and are not high school graduates. The limitations of CPS as a data source on dropouts stem from the size of the sample and the survey's broad scope. Because CPS collects no information on school characteristics and experiences, its uses in addressing dropout issues are primarily for providing some insights into who drops out and estimating national dropout rates. It is also the only source of time series data on dropout rates. Data are available since 1967 to calculate event rates and earlier for status rates.

Very few household members who dropped out in the past 12 months appear in the sample -- approximately 350-400 in the CPS sample households each October. Because the number is low, national estimates of dropout rates for a single year cannot be very precise and estimates for subgroups such as racial/ethnic groups even less precise. Therefore, the CPS data are not very helpful for monitoring year-to-year changes in dropout rates, since only large changes are statistically significant. The problem is more severe for subgroups, including regions, the only subnational geographic level at which CPS is representative for the entire country.

The survey is conducted in approximately 60,000 dwelling units in 729 primary sampling units. Dwelling units are in-sample for four successive monthly interviews, out-of-sample for the next eight months, and then returned to the sample for the following four months. Some interviews are conducted by telephone. The sampling frame is a complete list of dwelling-unit addresses at the Census updated by demolitions and new construction and field listings. The population surveyed excludes members of the Armed Forces, inmates of correctional institutions, and patients in long-term medical or custodial facilities; it is referred to as the civilian, non-institutionalized population. Typically, about four percent of dwelling units are not interviewed, because occupants are not at home after repeated callbacks, or for some other reason.

High School and Beyond. High School and Beyond (HS&B) is NCES' national longitudinal survey of 1980 high school seniors and sophomores. A probability sample of 1,015 high schools was selected with a target number of 36 seniors and 36 sophomores in each school. Over 58,000 students -- 30,000 sophomores -- participated in the base-year survey. Students completed questionnaires and took a battery of cognitive tests. Subsamples of the two cohorts were resurveyed in the springs of 1982 (1st follow-up), 1984 (2nd follow-up), and 1986 (3rd follow-up). High school transcripts were obtained in 1982 for more than half the sophomore cohort. Representing the nation's high school sophomores of 1980 (for Census divisions as well as nationally) with substantial oversampling of special populations, this longitudinal study is mainly dependent on student self-reports (in group or personal interview situations) for collecting experiences between 1980 and 1986.

In the 1982 first follow-up, all members of the sophomore cohort attending the same school as in 1980 were sampled with certainty, while those not attending the same school were subsampled at varying rates. Dropouts were selected with certainty and administered a separate dropout questionnaire. Over 2,000 of the sophomore cohort were identified as dropouts at the time of the first follow-up (spring of 1982). For the sophomore cohort, the HS&B database contains school information (about the base-year school); base-year student questionnaire data; transcript data (complete records of high school course taking); 1st, 2nd and 3rd follow-up student data; and cognitive test results administered in the base year and first follow-up.

Because of the timing of the survey, HS&B is only representative of individuals who were enrolled as sophomores in spring 1980 (excluding individuals in special schools). Missing are those dropping out before administration of the HS&B questionnaire during spring 1980. Another limitation is the inability to distinguish between two types of students

who completed high school after June 1982 -- those who dropped out and returned to finish and those who never dropped out but took longer to complete high school. Despite these limitations, the dropout data contained in HS&B represent one of the best sources of comparable information on the family, school, and occupational histories of dropouts and nondropouts. Because of its longitudinal nature, the HS&B data set is suitable for examining how many and which dropouts later return to complete high school and by what routes.

Future (Potential) Data Sources

National Education Longitudinal Study. The National Education Longitudinal Study of 1988 (NELS:88) is the third in NCES' series of longitudinal studies. In order to address a wider range of issues related to the transition of students through school and beyond, NELS:88 began with eighth graders. A nationally representative sample of 1000 schools (800 public and 200 private) was drawn and a random sample of 26,000 eighth-grade students selected. Base-year data were collected in 1988 from students, parents, school administrators, and teachers. Subsamples of the eighth grade cohort will be followed at two-year intervals, beginning in 1990.

For the purposes of NELS:88, an event history definition of dropping out will be used, gathering information on the timing of dropout decisions. Dropouts who later return to school can be distinguished from those who do not return. Each dropout identified in 1990 will complete a special dropout questionnaire and take a battery of tests. For each dropout, the data set will include base-year student, parent, teacher, and school data plus first follow-up data that will stress reasons for dropping out and employment history after dropping out. Present plans call for following dropouts every two years for the next 8-10 years. Those students who drop out of school between 1990 and 1992 (approximately 10th to 12th grade as in HS&B) will also be identified and followed.

NELS:88 is a nationally representative sample of 1988 eighth-grade students with substantial oversampling of special populations, including Hispanics and Asian/Pacific Islanders. Since all students identified as dropouts will be followed, the dropout sample should also be nationally representative of students who left school after spring of eighth grade.

Because NELS:88 will collect data on family, occupational, and educational histories over time, the study will be a valuable source of data about dropouts and how they compare to nondropouts. Although the sample was not designed to be representative of States, it will be representative of the nine Census divisions. This data base will not be representative of dropouts who left school before spring of 8th grade or those who were attending special (e.g., alternative, handicapped) schools after the eighth grade.

Common Core of Data. The Common Core of Data (CCD) administered by NCES is an annual universe survey of the State-level education agencies in the 50 States, the District of Columbia and the outlying areas. Statistical information is collected on public schools, staff, students, and finance. CCD does not presently collect data on dropouts, but NCES plans to implement such a data collection over the next several years.

A pilot test of dropout data collection will take place in 27 States and three territories (a total of approximately 270 school districts) for the 1990 CCD data collection. When the dropout statistics are added to the CCD, it will be possible to report the number of dropouts from public schools and an event dropout rate for States, major subpopulations, and the Nation. Data will be collected by grade for grades 7 to 12, and rates by grade can be reported. An evaluation of the pilot test will be completed in 1990-91.

The CCD dropout reporting system will have three components: a dropout definition, a protocol for districts and States to follow for reporting dropout statistics to NCES, and a protocol for NCES to follow for summarizing and publishing these statistics. Data will be gathered through State education agencies based on administrative records maintained at school districts and schools. The measure will be a one-year cross-section. This is to be a universe count; no samples are planned. The current plans for the definition and protocols are described below. These are subject to change depending on the outcome of the pilot test and its evaluation.

Definition.[28] A school dropout is an individual who was enrolled in school at some time during the previous school year, was not enrolled at the beginning of the current school year, has not graduated from high school or completed an approved educational program, and does not meet any of the following exclusionary conditions:

- o death;
- o temporary absence due to suspension or illness;
- o transfer to another public school district, private school, or a State or District approved education program.

For the purposes of this definition:

- o A school year is the twelve-month period of time beginning with the normal opening of school in the fall;
- o An individual has graduated from high school or completed an approved education program upon receipt of formal recognition from school authorities;
- o A State or District approved education program may include special education programs, home-based instruction, and school-sponsored GED preparation.

Protocol: State and Local. The reporting protocols for States and districts are based on applying the definition at the district level, and transmitting the resulting counts, through

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[28] This is a statistical definition, which is being field tested as the basis for collecting comparable national and state dropout data. It is similar to the definition developed for the purposes of the School Dropout Demonstration Assistance Program, established under Sec. 6201 (a) of the Hawkins-Stafford School Improvement Amendments.

the State, to NCES. This process will be incorporated into the data collection for the Common Core of Data (CCD). States will be requested to count and report dropouts at the district level from grades 7 through 12, and to identify each dropout by sex and by race/ethnicity, as well as by grade. Counts are requested for every cell representing a combination of sex, race and grade. There are 60 such cells. The format also calls for reporting membership counts for sex by race and by grade, so that dropout rates can be calculated for those cells.

Protocol: NCES. The final component of the system includes the summarization and reporting of data by NCES. The basic procedure will be to aggregate dropout counts and enrollments so that dropout rates can be reported at the State, regional and national levels. This will be done for the individual cells, for specific sub-populations, and for the total population. In addition, NCES will calculate an overall measure of the dropout rate across grades 9 through 12 at the State level.

The major potential weakness is the accuracy of the counts due to uncertainty about the ability of school personnel to differentiate "true" dropouts from students who transfer to another school. There may also be incentives to under-report dropouts, which could distort counts. Both potential sources of error will be evaluated. Validation studies are an integral part of the pilot test and will be conducted by an independent contractor. The breadth of the data set is limited to race/ethnicity, grade, and sex. Data will be useful for monitoring change down to the school district level and can be linked to limited school district characteristics gathered through CCD. The coverage of public schools will only be limited by SEA/LEA willingness and ability to adopt the new reporting system and definition.

The pilot test will take place during the school year 1989-1990. The refinements and evaluation will continue through 1990-91. If the system is successful, it would be implemented for school year 1991-92 and would be an annual collection. The first data would be available in late December 1992.

National Household Education Survey. NCES, recognizing that current school-based surveys (e.g., NELS:88, HS&B) cannot provide all of the data needs of policy makers on the issue of dropouts, has initiated plans to collect dropout data as part of the National Household Education Survey (NHES). Through this survey, NCES will collect information from households (via telephone) about the school enrollment and educational attainment of 14- to 21-year olds. Data will be gathered for dropouts and nondropouts about demographic characteristics, family background, education and employment history, marital and family formation history, family income, school experiences, and participation in education programs after leaving high school. Data collected will allow the Center to estimate at the national level for those 14 to 21 years of age: dropout counts/rates below college level over a 12-month period and counts/rates of those not enrolled and not graduated from high school. A pilot test will be conducted in October 1989, and an evaluation completed in Spring 1990.

As presently designed, NHES will use a two-tiered telephone interview procedure to first screen households and then to survey individuals 14 to 21, nondropouts and dropouts.

One feature of the NHES design is to oversample minority households. A major limitation of this study is that only households with telephones will be screened by NHES.

The NHES will collect data from non-institutionalized samples of individuals, those not connected with specific schools. Possible obstacles to collecting dropout data via a household telephone survey are: (1) an estimated 19 percent of dropouts reside in nontelephone households; and (2) the difficulty in identifying all persons associated with a given household. The pilot study will provide information on the effectiveness of various strategies to deal with these problems. Together with October CPS data, the NHES data base may provide a means to develop precise nationally representative dropout counts/rates.

APPENDIX D

TECHNICAL NOTES

Definition of Who is a Dropout

One of the concerns being addressed in the new data collections on dropouts is the development and implementation of a nationally consistent definition of a dropout. Currently, there is considerable variation across local, state and Federal data collections on such issues as:

- o Whether those below the legal school-leaving age are identified as dropouts;
- o Whether students entering the military or correctional institutions are considered dropouts;
- o Whether those in GED programs or with an equivalency certificate are considered dropouts;
- o Whether those not graduating with their class (but never leaving school) are considered dropouts; and
- o Whether those leaving high school early to enter college are considered dropouts.

The dropout definitions embedded in the existing data sources -- CPS and HS&B -- are neither consistent with one another nor with the new definition that NCES is trying to develop. Furthermore, there have been changes in CPS data editing procedures as of 1986-87. There will be some discontinuities in dropout reporting as the new and more consistent data become available.

Defining and calculating event dropout rates using CPS

Using data from CPS, a person is considered to have dropped out during the 12-month period from one October to the next if s/he was enrolled in school at the beginning of the 12-month period, is not enrolled at the end of the period, and has not received a diploma or an equivalency certificate in the meantime.

To calculate an event rate using CPS, the number of dropouts is divided by an estimate of the number of students enrolled the previous October. Since the CPS survey takes place the first full week in October and relatively few students drop out during the first month of school, the CPS event rates approximate rates for a school year. What is not

captured in the CPS rate is students who drop out and return to school within the 12-month period and students who enrolled after the first week of October the previous year. The definition being field tested in the Common Core of Data (CCD) by NCES includes all students enrolled at any time during the previous school year, as does the definition developed by the U.S. Department of Education in connection with the Dropout School Demonstration Assistance Project.

CPS asks the question on enrollment the previous October only about individuals 14 years and older. Because many students and some dropouts are less than 14 in grades below the tenth grade, this report focuses on dropout rates for grades 10-12. Included in the grade 10-12 rate are students who completed the 9th grade the previous year, but did not return in the fall to begin 10th grade.

A limitation of CPS as a data source on dropout events is the lack of precision in the estimates of event dropout rates, especially below the national level. For a change in the national dropout event rate from one 12-month period to another to be significant at the .05 level, assuming 1988 rates and sample sizes, the change would have to be greater than 0.9 percent. For blacks, it would need to be at least 2.9 percent and for Hispanics, 5.1 percent. These changes seem relatively large compared to the actual event rates in 1988 -- 4.8 percent nationally, 6.3 percent for blacks and 10.6 percent for Hispanics, and the actual changes in rates over the past twenty years.

However, this limitation can be reduced by combining the data for three years and calculating a three-year-average event rate.[29] These averages, because they are based on larger sample sizes, have the properties of being somewhat less erratic and having smaller standard errors than the single-year rates. Therefore, the estimates are more precise and differences over time and between groups are easier to detect. Using three-year averages reduces the size of the change needed in order to conclude that a difference between two years is significant to 0.5 percent for the national rate, 1.6 percent for blacks, and 2.7 percent for Hispanics.

A minor disadvantage to this approach is that a three-year average cannot be calculated for the most recent year in which there are data. Thus, the last three years of CPS data are 1986, 1987, and 1988, and they are used to calculate an event rate for 1987. That 1987 rate represents the average of the rates for three periods: October 1985-October 1986, October 1986-October 1987, and October 1987-October 1988. (Data covering the period October 1988 to October 1989 will be collected in the first week of October 1989.)

To use the 12-month event rate for grades 10-12 to estimate a cohort rate for a group of entering tenth graders involves two assumptions: that the event rate is approximately the same for each grade and that the rate does not change over the three years between tenth and twelfth grade. The estimated cohort rate does not equal three times the 12-month event rate, since each year there are fewer students as some have

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[29] R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989.

already dropped out. Thus, if the grade 10-12 event rate is 4.4 percent, the calculation for the grade 10-12 cohort rate is the following:

Retention rate after 10th grade = 1.00 - .044 = .956
Retention rate after 11th grade = .956 - (.956)(.044) = .956 - .042 = .914
Retention rate after 12th grade = .914 - (.914)(.044) = .914 - .040 = .874

Dropout rate for the 10th grade cohort = 1.00 - .874 = .126

The general formula for calculating such a tenth grade cohort rate is:
$1.00 - (1.00 - \text{event rate})^3$.

Beginning with 1986, to improve the quality of the data the Bureau of the Census has instituted new editing procedures for cases with missing data on school enrollment items. The effect of the editing changes for 1986, a bridge year in which the data were edited using both the old and new procedures, was to increase the number of students enrolled in school and decrease the number of students enrolled last year but not enrolled in the current year. The new editing procedures lowered the 1986 event rate for grades 10-12, ages 14 to 24, by about 0.4 percent, from 4.69 to 4.28 percent. While a difference of 0.4 percent is large relative to the observed year-to-year changes in the event rate, it is not statistically significant. However, it can affect the assessment of the significance of differences between rates in years before and after the editing change. For example, the difference between the 1985 (5.2 percent) and 1986 event rates is significant based on the new 1986 rate (4.3 percent) but not on the old rate (4.7 percent).

To facilitate comparisons of event rates for years before and after the editing change and to be able to compute a three-year average event rate for 1986 using three years of data reflecting the same editing procedures, the single-year event rates for 1987 and 1988 were adjusted. This was done for each type of rate (national, black females, Hispanics, etc.) by taking the ratio of the 1986 rate based on the old editing procedures to the 1986 rate based on the new editing procedures for that rate and then multiplying the 1987 and 1988 rates by the ratio. Three-year averages were calculated for 1986 and 1987 using these adjusted data and were used in the analysis of time series trends from 1968 to 1987. When 1986 data based on the new editing procedures are used in tables in this report, they are denoted as being "Data revised from those previously published."

The changes in the editing procedures made less difference in the status dropout rates for 16- to 24-year-olds -- 12.21 percent based on the old procedures and 12.09 based on the new. Partly because the differences were smaller, both absolutely and relatively, and partly because there was no gap in years, since single-year rates were analyzed for status dropout rates, no adjustments were made to the rates for 1987 and 1988 to make them comparable to earlier years. The time series analysis for status dropouts was based on the years derived used the same editing procedures, 1968-1986.

Defining cohort dropout rates using HS&B

Because HS&B is such a rich data source, several different dropout rates have been calculated for this single cohort of students. The primary reasons for differing rates are threefold: differences in the group of students, differences in the timing and wording of items, and multiple sources of information about school enrollment and completion status. Questions relating to whether an individual was a dropout were included in all three follow-ups. Since the first follow-up was in spring of 1980, there were some students still enrolled in school at the time of the first follow-up who later dropped out. Thus, the 13.6 percent dropout rate derived from the first follow-up understates the sophomore cohort's dropout rate.[30] Dropout rates based on the transcript data and the second and third follow-up data have been 2 to 4 percent higher. (All these rates are underestimates, since they exclude the students who dropped out before the spring of their sophomore year.)

The sample of students has varied with time. The sample size has varied and not everyone in the sample for a given follow-up actually participated. A larger proportion of dropouts than nondropouts fell out of the sample because they could not be traced.

The questionnaire items related to dropouts varied with each follow-up. Some students identified themselves as dropouts in one follow-up and not in another. This could be an accurate response to the questionnaire items, if they would be considered a dropout under one item and not another. Or it could reflect inaccurate responses. An additional source of data is the transcripts; students could be identified as dropouts based on their transcripts, who never classified themselves as a dropout.

The multiple sources of data mean a dropout rate can be calculated in a variety of ways. Which item or items from which follow-up is used? Are transcript data used? How are inconsistent and missing data handled? The answers to these questions are a matter of judgement and depend in part on the type and purpose of the analysis. There is no single correct way to do it, which explains why multiple rates are quoted from HS&B.

The dropout (and return) variable used in the analysis conducted for this report was developed by Teresita Chan Kopka.[31] It is based on student self-reports of high school completion in the third follow-up (variable TY18), except for sample members for whom there was not a valid code on that variable, in which case other information was used to assign the individual to a dropout status. Further details about the construction of the variable can be found in Kopka's tabulation. Other dropout measures using second or third

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[30] Peng, op. cit.

[31] Kopka, op. cit.

follow-up data have yielded estimates of dropout rates[32] that do not differ significantly from the 17.3 percent based on the measure utilized in this report.

There are several limitations with the third follow-up variable for the purposes of calculating dropout and return rates. However, the net effect on these rates is unclear. On the one hand, both dropout and return rates may be overstated because students who finished high school after June 1982, but never dropped out may be classified as dropouts. On the other hand, dropout and return rates may be understated if dropouts who had returned and completed by June 1982 are not counted as dropouts.

It is not clear how either group of students might have classified themselves on the third follow-up item. For the late completers, there was no appropriate category in the question -- their choices were to say that they had completed with the class or that they had dropped out and completed high school later. It is very difficult to identify continuously enrolled late completers in HS&B because there is no continuous record of enrollment after the transcripts were collected in summer/fall 1982. For dropouts who completed by June 1982, they might have classified themselves either as having graduated on time or having dropped out and completed by later obtaining a diploma or GED.

HS&B collected data on many variables several times, including many of the factors associated with dropping out that are discussed in this report. Data from the base year rather than from the first follow-up on variables such as SES, grades, school program, and disciplinary problems were utilized for two reasons. The major reason was to ensure that data from the same period were used for dropouts and nondropouts. If first follow-up data were utilized for school variables, then data from the base year would have to be substituted for those who were not in school at the time of the first follow-up. In addition, using base year data ensured that data for the associated factors represented a time period prior to dropping out or the risk of dropping out for everyone. According to the logic of survey analysis, one factor cannot have contributed to the occurrence of another, if that contributing factor took place after the event.

The one exception to the consistent use of base year data was in the measurement of SES. In HS&B, SES is measured through a composite variable, based on five elements: father's education, mother's education, father's occupation, family income, and material possessions in the home (typewriter, electric dishwasher, number of vehicles). It is the simple average of the non-missing components after each component is standardized.

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[32] An estimated dropout rate of 16.6 percent is reported in U.S. Department of Education, National Center for Education Statistics, High School and Beyond: A Descriptive Summary of 1980 Sophomores: Six Years Later, CS 88-405, Washington, D.C.: June 1988 and 16.8 percent based on the composite variable, HISDIPLOM, is reported in U.S. Department of Education, National Center for Education Statistics, High School and Beyond 1980 Sophomore Cohort Third Follow-up (1986), Data User's Manual, Volume I, CS 87-408m, Washington, D.C.: October 1987.

For base year SES, about 33 percent (weighted) of the dropouts were missing valid codes on the SES composite. Where there was a valid SES composite on the first follow-up, that was substituted for a missing base year SES composite. This reduced to 27 percent (weighted) the proportion of dropouts with missing SES. Because of the crucial nature of this variable and the high percent missing, the missing category was included in all the tables utilizing the SES variable.

Other variables with high proportions of missing data for dropouts (weighted) include home language background (26 percent), family structure (27 percent), school discipline problems in the past year (35 percent), ever suspended or on probation from school (35 percent), and ever in trouble with the law (34 percent). Caution should be used in drawing generalizations based on these variables with high nonresponse rates for dropouts.

For all these variables, the proportion of weighted cases with missing data was much lower for the sample as a whole than for dropouts. In addition, the proportion of unweighted dropouts not responding to these items was much lower (7 to 18 percent) than the proportion of weighted dropouts. Some dropouts with very high sample weights did not respond to these items, which is why the proportion of missing data was two to more than three times higher for the weighted cases as for the unweighted. One example of this phenomenon is the proportion of dropouts with unknown SES. Among the unweighted dropout cases in the sample, 12.6 percent were missing a valid SES code as compared to 27.5 percent of the weighted dropout cases.

Accuracy of Estimates

The estimates in this report are derived from samples and are subject to two broad classes of error -- sampling and nonsampling error. Sampling errors occur because the data are collected from a sample of a population rather from the entire population. Estimates based on a sample will differ somewhat from the values that would have been obtained from an universe survey using the same instruments, instructions, and procedures. Nonsampling errors come from a variety of sources and affect all types of surveys, universe as well as sample surveys. Examples of sources of nonsampling error include design, reporting, and processing errors and errors due to nonresponse. The effects of nonsampling errors are more difficult to evaluate than those that result from sampling variability. As much as possible, procedures are built into surveys in order to minimize nonsampling errors.

The standard error is a measure of sampling variability. It provides a specific interval, with a stated degree of confidence, within which an estimate would occur if a complete census were taken. The probability that a complete census would differ from the sample by less than the standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100; that the difference would be less than 1.96 the standard error, about 95 out of 100.

Standard errors for percentages and number of persons based on CPS data were calculated using the following formulas, recommended by the Bureau of the Census:[33]

Percentage

$$s.e. = \sqrt{\frac{(b)(p)(100 - p)}{N}},$$

where p = the percentage ($0 \leq p \geq 100$),
N = the population on which the percentage is based, and
b = 2,312 for total or white population 14 to 34 years old
2,600 for black or Hispanic population 14 to 34.

Number of persons

$$s.e. = \sqrt{\frac{(bx)(1 - x)}{T}},$$

where x = the number of persons (i.e., dropouts),
T = population in the category (i.e., blacks 16 to 24), and
b = as above.

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[33] U.S. Department of Commerce, Bureau of the Census, "School Enrollment -- Social and Economic Characteristics of Students: October 1986," Current Population Reports, P-20, 429, pp. 99-100, 103.

The HS&B sample is not a simple random sample. Students were selected within schools grouped by strata. Sampling rates for schools varied by strata. Simple random sample techniques for estimating standard errors could underestimate the true standard errors. To overcome this problem, the HS&B standard errors were calculated using Taylor residual techniques.

Standard errors for many of the estimates in the tables appear in Appendix A.

Methodology and Statistical Procedures

The comparisons in the text have all been tested for statistical significance to ensure that the differences are larger than those that might be expected due to sampling variation. Two types of comparisons have been made in the text.

Differences in two estimated percentages. The Student's t statistic can be used to test the likelihood that the differences between two percentages are larger than would be expected by sampling error.

$$t = \frac{p_1 - p_2}{\sqrt{S.E._{p_1}^2 + S.E._{p_2}^2}}$$

where p_1 and p_2 = the two percentages being compared, and

$S.E._{p_1}$ and $S.E._{p_2}$ = the standard errors of the percentages.

As the number of comparisons on the same set of data increases, the likelihood that the t value for at least one of the comparisons will exceed 1.96 simply due to sampling error increases. For a single comparison, there is a five percent chance that the t value will exceed 1.96 due to sampling error. For five tests, the risk of getting at least one t value that high increases to 23 percent and for 20 comparisons, 64 percent.

One way to compensate for this danger when making multiple comparisons is to adjust the alpha level to take into account the number of comparisons being made. For example, rather than establishing an alpha level of .05 for a single comparison, the alpha level is set to ensure that the likelihood that the t value for any of the comparisons is less than .05. This Bonferroni adjustment is calculated by taking the desired alpha level and dividing by the number of possible comparisons, based on the variable(s) being compared. The t value corresponding to the revised, lower alpha level must be exceeded in order for any of the comparisons to be considered significant. For example, to test for differences in dropout rates between whites, blacks, and Hispanics, the following steps would be involved:

1. Establish the number of comparisons -- in this case three (whites and blacks; whites and Hispanics; and blacks and Hispanics). The number of two-way comparisons that can be made equals $[(n)(n-1)]/2$, where n is the number of variable categories. Thus, with three categories the number of possible comparisons is $[(3)(2)]/2 = 3$.

2. Divide the desired alpha level, .05, by the number of comparisons, e.g. three, to obtain the new alpha level ($.05/3 = .0133$).

3. Consult a table of t statistics (or the standard normal table for z values if the N is large) to find the t value that corresponds to that alpha (t = 2.39 for alpha =.0133).

All comparisons in this report were tested using the Bonferroni adjustment for the t tests. Where categories of two variables were involved, the number of comparisons used to make the Bonferroni adjustment was based on the relationship(s) being tested. For example, in the chapter on cohort rates there is a table that displays dropout rates by race/ethnicity by sex. The concern in this table is the relationship between sex and dropout rates within different racial/ethnic categories. Therefore, the appropriate number of comparisons to use in the adjustment of the alpha level is the number of racial/ethnic categories, i.e., one comparison (between the two sexes) within each racial/ethnic category.

Trends over time. Regression analysis was used to test for trends in the CPS time series data. This was done using the regression capability of LOTUS 1-2-3, taking the standard errors of the estimates into account. For some analyses, in addition to testing for a relationship between time and the dropout rate, an interaction effect between time and sex was also tested for by entering sex as a dummy variable into the regression. The regression coefficients for time and sex were tested to determine that they were significant. All statements about trends are statistically significant at the .05 level.

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